

CITY OF IRVINE GENERAL PLAN



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Adopted August 1984

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PREFACE

The City of Irvine is a chartered City incorporated in 1971. As of 1984, the City had a population of 76,010 people, and is expected to have a population of 154,000 people in the year 2000.

The planning area is centrally located both within the Los Angeles-San Diego urbanizing corridor and within Orange County. This central location and the area's appealing climate and topographic characteristics are basic factors creating the growth pressures on the planning area. These pressures result from both the outmigration from nearby urbanized areas and the immigration from other parts of the United States. The relative developability of the flatlands portion of the planning area compared to other portions of the non-urbanized Los Angeles-San Diego corridor also focuses growth pressures.

The planning area, as illustrated in Figure a, encompasses approximately one half of the general area known as the Irvine Ranch. It consists of the incorporated area of the City of Irvine and the sphere of influence defined for Irvine by the Local Agency Formation Commission.

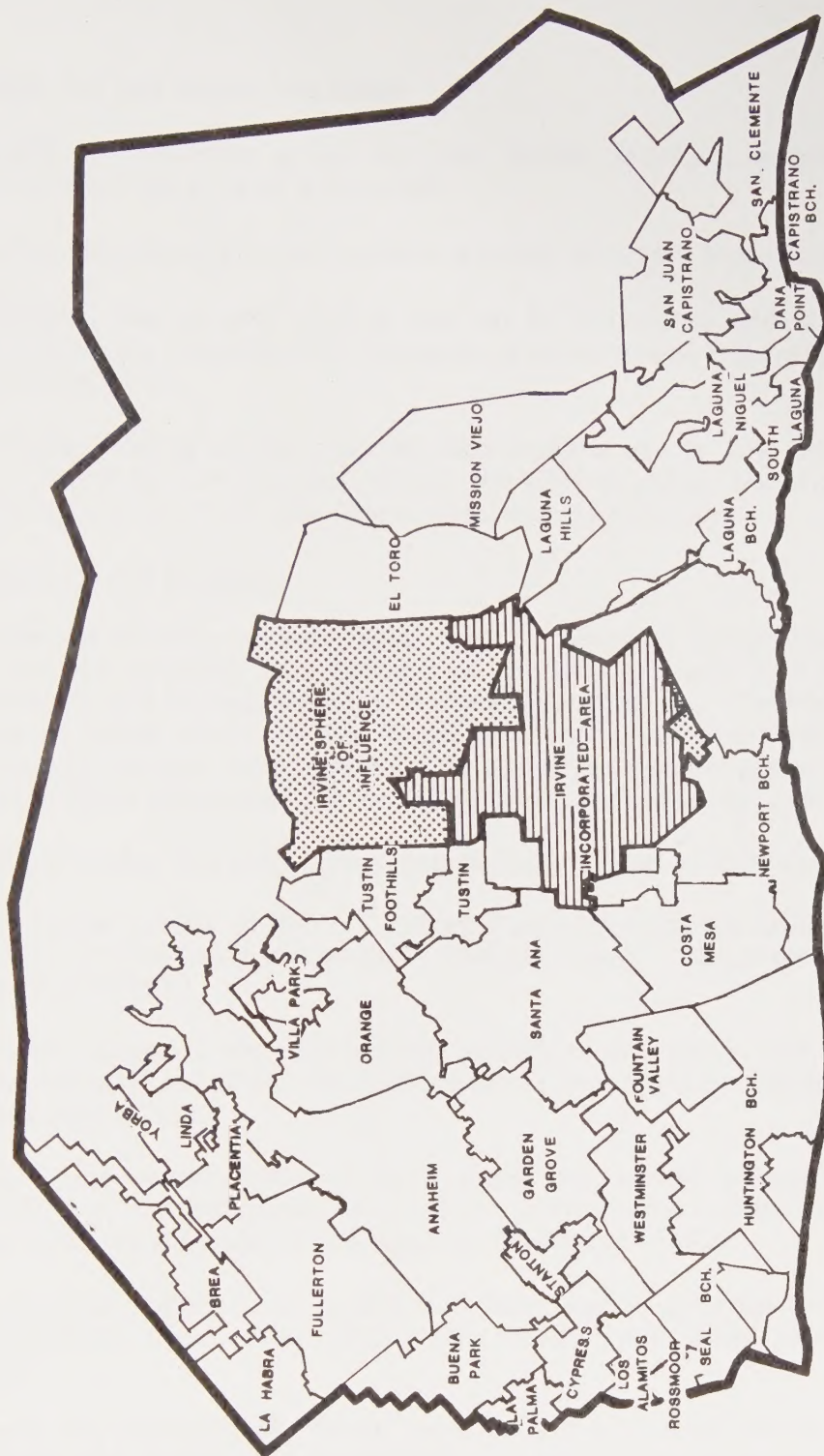
The legal and political distinctions between the subareas of the planning area are significant. The incorporated area of the City represents the City's area of greatest influence. Within this area the City can exercise a full range of zoning and police powers. The sphere of influence is the area over which the City has the next degree of influence. It represents the potential boundaries of the City which have been agreed to by the Local Agency Formation Commission and by adjacent cities. It, therefore, has a high likelihood of becoming part of the City, provided the landowner agrees, as provided for in state law.

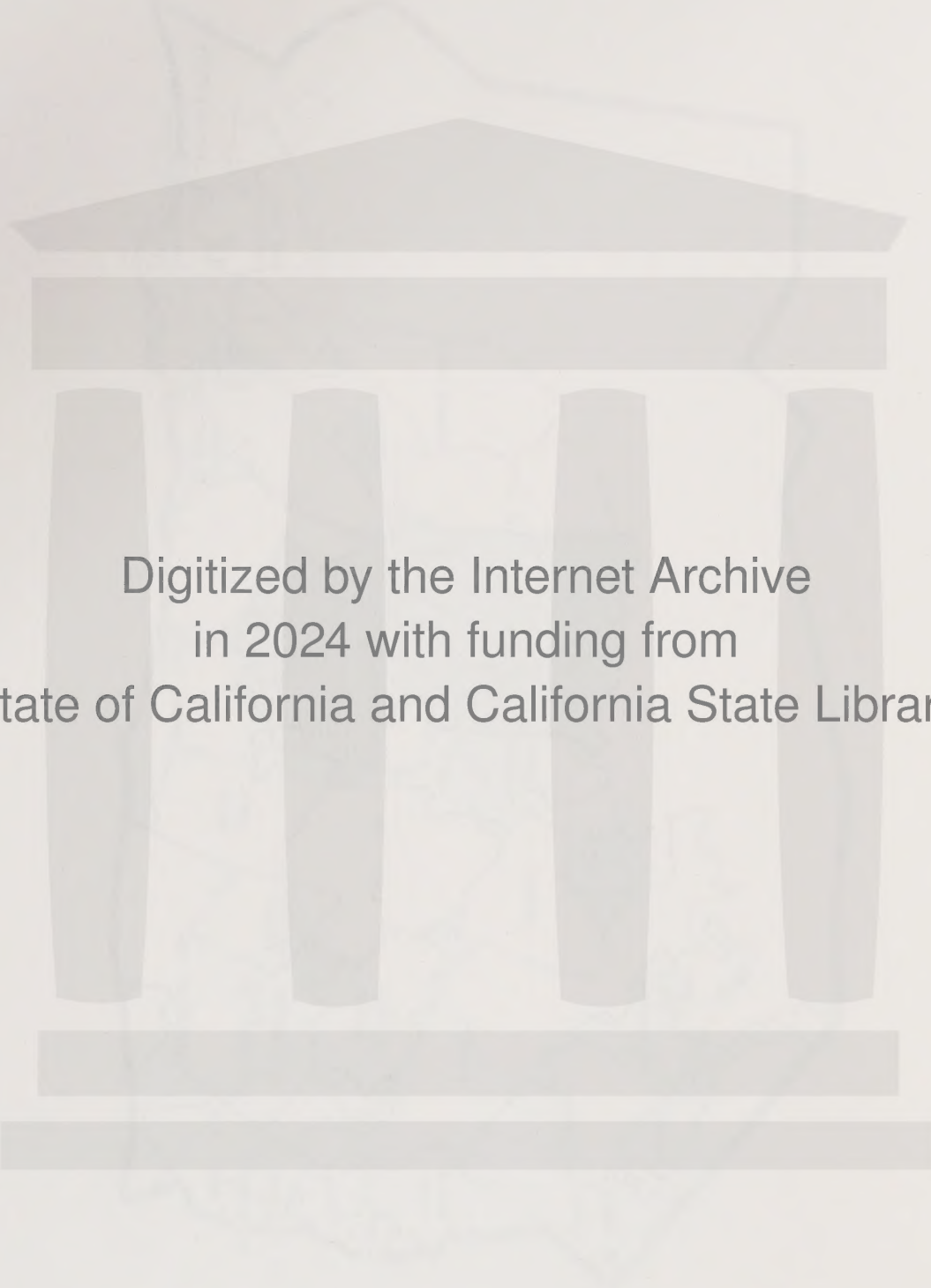
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INTRODUCTION

Purpose

The general plan has two major functions:

1. To identify or describe goals for the future physical, social, and economic development for the City of Irvine; and
2. To describe and identify public policies adopted to attain those goals.

To a lesser extent, the general plan is also an informational document. Information regarding such issues as existing noise contours, wildlife areas, and historical sites can be found in the general plan.

Taken as a whole, reading of the general plan enables one to find out where the City presently is in terms of development, where the City is going, and what guidelines and policies are being used to direct the future character of the City.

State Requirements and Policies

State Law (Section 65300) requires each city to adopt a comprehensive, long term general plan for the physical development of the city and any land outside the city's boundaries which is felt to bear relation to the city's planning. The state requires cities to adopt general plans based on the belief that the future growth of the state is determined largely through local actions. By requiring general plans, the state can be assured of a consistent framework for decisions while still allowing local control.

State policies pertaining to general plans can be summarized as follows:

- To improve the quality of life in California by preserving and using the resources of the land in economically and socially desirable ways. (Adapted from Government Code Section 65030.)
- To maintain, improve, and enhance the quality of air, water, and land according to state and national standards and local needs. (Adapted from Public Resources Code Sections 21000 et seq.)
- To ensure the preservation of open space for scenic beauty, recreation, the conservation of natural resources, and the protection of public health and safety. (Adapted from Government Code Sections 65560 and 65561.)
- To protect the state's most productive farm and rangelands from conversion to non-agricultural uses. (Adapted from Government Code Sections 51220 and 54790.2.)
- To ensure the provision of "decent housing and a suitable living environment for every California family." (Adapted from Health and Safety Code Section 37112 and Government Code Section 65580(a).)

- To conserve water, air, and energy by considering the effect of future development on these resources and by encouraging new development which uses public facilities currently available and minimizes the need to travel. (Adapted from Public Resources Code Section 21001 and the 1978 Environmental Goals and Policies Report.)
- To provide transportation facilities and services that are adequate and efficient and that significantly reduce hazards to human life, pollution, noise, disruption of community organization, and damage to the natural environment. (Adapted from Government Code Section 14000.)
- To identify and reduce hazards to health and property from natural and manmade conditions, including floods, fires, landslides, soil erosion, seismic activity, airplane crashes, excessive noise, hazardous wastes, and congested and unsanitary living conditions. (Adapted from Water Code Section 8401, Government Code Section 26215, Public Utility Code Section 21670, and Health and Safety Code Sections 25101, 33071, and 37121.)
- To use reasonable and practical means in carrying out the general plan so that it will serve as a pattern and guide for orderly physical development and the preservation and conservation of open-space land and as a basis for the efficient expenditure of public funds. (Adapted from Government Code Section 65400(a).)
- To ensure that land use decisions are made with full knowledge of the long- and short-term economic and fiscal implications, as well as environmental effects. (Adapted from Government Code Section 65030.2.)

General Plan Organization

The City's general plan has thirteen elements grouped into three main categories. They are as follows:

THE BUILT ENVIRONMENT

- A. Land Use
- B. Urban Design
- C. Housing
- D. Circulation
- E. Scenic Highways
- F. Noise
- G. Public Facilities
- H. Waste Management
- I. Energy (reserved)

THE HUMAN ENVIRONMENT

- J. Safety
- K. Parks and Recreation

THE NATURAL ENVIRONMENT

- L. Conservation and Open Space
- M. Seismic
- N. Cultural Resources

Each category reflects specific aspects of development policies. The Built Environment reflects physical changes that will occur under the element's policies shown in that category. The Human Environment reflects efforts that affect the population's health and welfare, and the Natural Environment reflects efforts that concern the natural and historic aspects of the planning area.

How To Use The General Plan

Each element has the following format:

An introductory section comprised of:

Description of Element

Existing Conditions

Trends

Identification of Issues

Response to Issues

A goal section comprised of:

Goal

Objectives

Implementing Actions

Standards

Related Objective Numbers

Compliance Regulations

The introductory section of the element provides an overview of the element. This section does not provide policy but, rather, background information which lends understanding to the policies of the element.

The Goal section of each element outlines City adopted policy. Each element has one goal. For each goal Objectives and Implementing Actions have been listed. These reflect actions that the city should follow to attain the stated goal. Standards are specific, often quantified guidelines, which can often directly translate into regulatory controls.

Implementation

To make the long-range comprehensive planning of the general plan more meaningful, a link between the general plan and day-to-day actions of local government is required. In California, the general plan has been institutionalized through the enactment of statutes requiring consistency of certain local actions with the general plan. Additional statutes, while not mandating consistency, require findings or a report on whether proposed actions conform to the general plan. The state's general rule for consistency determination is stated as:

"An action, program, or project is consistent with the general plan if it, considering all aspects, will further the objectives and policies of the general plan and not obstruct their attainment."

The following lists consistency provisions in state law:

Zoning:

Government Code Section 65860 requires that zoning ordinances in counties, general law cities, and charter cities with a population of over two million be consistent with the general plan.

Subdivisions:

Government Code Sections 66473.5 and 66474 require that subdivision and parcel map approvals in all jurisdictions be consistent with the general plan.

Government Code Sections 66474.60 and 66474.61 require that subdivision and parcel map approvals in cities of more than 2,800,000 population (Los Angeles) be consistent with the general plan.

Reservations of Land Within Subdivisions:

Government Code Section 66479 requires that reservations of land for parks, recreational facilities, fire stations, libraries, and other public uses within a subdivision conform to the general plan.

Open Space:

Government Code Section 65566 requires that acquisition, disposal, restriction, or regulation of open space land by a city or county be consistent with the open space element of the general plan.

Government Code Section 65567 prohibits the issuance of building permits, approval of subdivision maps, and adoption of open space zoning ordinances that are inconsistent with the open space element of the general plan.

Government Code Section 65910 requires that every city and county adopt an open space zoning ordinance consistent with the open space element of the general plan.

Government Code Section 51084 requires cities and counties accepting or approving an open space easement to make a finding that preservation of the open space land is consistent with the general plan.

Park Dedications:

Government Code Section 66477 enables local governments to require as a condition of subdivision and parcel map approval the dedication of land or a payment of fees for parks and recreational purposes if the parks and recreational facilities are consistent with an adopted recreation element in the general plan.

Local Coastal Programs:

Public Resource Code Section 30513 requires the zoning ordinances of the Local Coastal Program to conform to the certified coastal land use plan (i.e., portions of the general plan).

Capital Improvements:

Government Code Sections 65401 and 65402 require the review of and report on the consistency of proposed city, county, and special district capital projects, including land acquisition and disposal, with the applicable general plan.

Development Agreements:

Government Code Section 65867.5 requires that development agreements between developers and local governments be consistent with the general plan.

Redevelopment Plans:

Health and Safety Code Section 33331 requires that every redevelopment plan conform to the adopted general plan.

Housing Authority Projects:

Health and Safety Code Section 34326 declares that all housing projects undertaken by housing authorities are subject to local planning and zoning laws.

Special Housing Programs:

Health and Safety Code Section 50689.5 requires that housing and housing programs developed under Health and Safety Code Sections 50680 et seq. for the developmentally disabled, mentally disordered, and physically disabled be consistent with the housing element of the general plan.

Parking Authority Projects:

Streets and Highway Code Section 32503 requires that parking authorities in planning and locating any parking facility are "subject to the relationship of the facility to any officially adopted master plan or sections of such master plan for the development of the area in which the authority functions to the same extent as if it were a private entity."

Planning Commission Recommendations:

Government Code Section 65855 requires that the planning commission's written recommendation to the legislative body on adoption or amendment of a zoning ordinance include a report on the relationship of the proposed ordinance or amendment to the general plan.

Project Review Under CEQA:

Title 14, California Administrative Code Section 15080 requires examination of projects subject to the provisions of the California Environmental Quality Act for consistency with the general plan.

On-Site Wastewater Disposal Zones:

Health and Safety Code Section 6965 requires a finding that the operation of an on-site wastewater disposal zone created under Health and Safety Code Sections 6950 et seq. will not result in land uses that are inconsistent with the applicable general plan.

Agricultural Preserves:

Government Code Section 51234 requires that agricultural preserves established under the Williamson Act be consistent with the general plan.

Government Code Sections 51282 and 51282.1 require cities and counties approving a Williamson Act contract cancellation to make a finding that the proposed alternate use is consistent with the general plan.

Mineral Resources:

Public Resources Code Section 2763 requires that city and county land use decisions affecting areas with minerals of regional or statewide significance be consistent with mineral resource management policies in the general plan.

Transmission Lines:

Public Utilities Code Section 12808.5 requires cities and counties approving electrical transmission and distribution lines of municipal utility districts to make a finding concerning the consistency of the lines with the general plan.

Solid Waste Facilities:

Government Code Section 66784.1 requires that the establishment or expansion of solid waste facilities be consistent with the general plan.

Large-Scale Urban Development Projects:

Health and Safety Code Section 56032 requires that comprehensive development plans for large-scale urban development projects be consistent with the general plan.

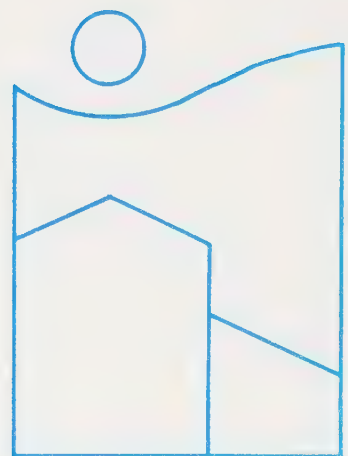
Development and Amending Process

The Irvine general plan did not begin in a planning vacuum. Significant regional and local planning studies have been completed or are underway and have had a major impact on the planning processes. Key ongoing regional planning studies referred to in the various elements include the public transit, scenic highways, conservation and open space, waste management, environmental inventory, and general planning studies being conducted by various agencies of Orange County.

Various regional transportation studies referred to in the circulation element relating to air, rapid transit, and freeways are also being undertaken by the Orange County Transit District, Orange County Road Development, Southern California Association of Governments, State Division of Highways and other public bodies.

The City's original general plan was adopted in 1973, since that time, several amendments have been adopted by the City. Amendments are permitted by State law four times per year for each mandatory element. Amendments can be initiated by the City or by a property owner. Approval authority for a General Plan Amendment rests with the City Council, after review of Community Development staff and Planning Commission recommendations.

Additional information pertaining to the general plan can be obtained by contacting the General Plan Section of the City's Community Development Department.



BUILT ENVIRONMENT

I-A

LAND USE ELEMENT

The land use element provides a long range guide for the development and use of all lands within the planning area. The land use element is one of the required elements of local general plans pursuant to California Planning and Zoning Law.

Description of Land Use

The land use element, through text and figures, establishes a pattern for land use and sets out clear standards for the density of population and intensity of development for each of the designated land uses. This element also establishes a phasing plan which serves to coordinate the timing and development of all future residential growth in the planning area.

In differing degrees, all of the elements of the general plan contain policies which relate to the land use element. The land use element, thus, is a reflection of the opportunities and constraints affecting land use as identified in the other elements. Although the land use element embodies many of the findings and recommendations of the other elements, it does not contain the detail necessary to understand the full implications of them. A working knowledge of all other elements is both desirable and necessary for a more complete understanding of the planning issues related to the City. The land use element represents the most desirable pattern for the ultimate development of the planning area as can be presently determined. As new information becomes available, or circumstances change, the land use element might require amendment. Thus, the land use element does not contain a final picture of the City in the future, but an expression of what is desired for the future based on present knowledge and circumstances, and as such, is part of a continuous planning process.

Figure A-1 (which can be found in the back of this document) is the land use plan for the planning area. The major characteristics of the plan include:

- The concept of residential villages;
- A regional commercial center, Irvine Center, located within the triangle created by the Santa Ana, San Diego, and Laguna freeways;
- Major businesses and industrial complexes located along the eastern and western edges of the City;
- Preservation of agricultural uses in the high noise and crash hazard zones adjacent to the Marine Corps Air Station (MCAS) El Toro;
- Very low density residential development in the rugged, more environmentally sensitive foothills;
- The University of California, Irvine and its inclusion area;
- The east-west activity corridor (a linear grouping of public and private facilities) connecting the City's business and industrial centers with the residential villages of the flatlands; and
- North-south open space corridors connecting the more intense areas of the flatlands with the northern and southern hills.

The following is a discussion of the various land uses in the land use plan. Within each land use category guidance is given for determining which land uses should be permitted. The inclusion of a use in a category does not necessarily mean that it is permitted in all areas where that category is shown on the land use plan. Nor are the uses which would be permitted in a particular area limited to those examples listed in

that category. The City Council may determine that other uses similar in nature can be permitted in a particular area if other general plan requirements and factors such as, but not limited to the following, are satisfied:

1. compatability with other uses
2. circulation capacity
3. urban design objectives
4. availability of services
5. environmental factors

Agriculture is a permitted land use, at least on a temporary basis, under all of the land use categories described in the general plan. Land which has not been assigned a particular land use designation qualifies for agriculture, general open space, or extensions of adjacent uses, as deemed appropriate by the City Council after consideration at the concept plan or zoning stages.

1. Institutional

Institutional uses include all public and quasi-public facilities such as schools, churches, and utilities. Institutional uses may be permitted within any other land use category when determined appropriate.

a. General Institutional

This subcategory includes hospitals, governmental offices and facilities related to education institutions. Land uses which support and are specifically related to the function of the primary institutional use may also be permitted. These support uses may include residential (only for the purpose of housing persons directly related to the institution, such as nurses and doctors for a hospital), retail and service commercial, and restaurants.

b. Civic Center

This includes the city hall complex and all related uses such as: city administrative offices, police headquarters, civic meeting hall, main fire station, offices of other agencies, and other related uses identified in the public facilities element.

c. Elementary School

d. Intermediate School

e. High School

f. Junior College

g. Private School

h. Utilities

i. University of California, Irvine and its inclusion area

This area may include housing, commercial facilities, and other uses related to the University.

2. Airport

This category includes MCAS El Toro. MCAS Tustin and John Wayne Airport are outside, but immediately adjacent to, the City's planning area.

3. Agricultural

This category represents permanent agricultural uses. Row crops, orchards, grazing, tree farms, wholesale nurseries, poultry farms, and uses normally related to the primary agricultural operation, or those which are compatible with adjacent agricultural uses may be included.

4. Residential

This land use category is subdivided into intensity ranges based upon the number of dwelling units per gross acre (including roadways) as follows:

- Rural Density - less than .1 Dwelling Unit/Acre
- Estate Density - 0.1-1.0 Dwelling Unit/Acre
- Low Density - 1-5 Dwelling Units/Acre
- Medium Density - 5-10 Dwelling Units/Acre
- Medium-High Density - 10-25 Dwelling Units/Acre
- High Density - 25-40 Dwelling Units/Acre

Development may be permitted within an area at an overall density that is lower than the range indicated, at the discretion of the City Council, but will not be permitted at a higher overall density. A mix of higher and lower densities may be permitted within an area, but the overall density shall not exceed the density shown on the land use plan. In some areas, densities allowed at the zoning level may be substantially lower than shown on the land use plan if deemed necessary by the City Council to implement City goals, objectives, and implementing actions. Examples include, but are not limited to, the standards relating to hillside development.

5. Commercial

There are three primary levels of retail commercial uses: village centers, district centers, and regional centers. These, plus three additional miscellaneous commercial designations, serve the commercial needs of the community. Each of the categories are discussed below:

a. Village Commercial

Village commercial centers are typified by inclusion of a super market, drug store, liquor store, bank, service station, fast food service, and small retail or service establishments. These centers are usually sited so that they will meet the retail commercial needs of the villages they serve. Refer to Standards for sizing criteria related to village commercial centers.

b. District Commercial

The district commercial centers are intended to accommodate the commercial needs of a group of villages or a district, and include the uses normally found in village centers, plus most of the following additional uses: a junior department store, specialty clothing stores, movie theatres, commercial recreation

facilities, hotels and motels, restaurants, and other facilities which are meant to serve a multi-village population base. Refer to Standards for sizing criterion related to district commercial centers.

c. Regional Commercial

Regional commercial centers are large shopping centers with a variety of large department stores and specialty shops. They may also include professional offices, institutional and governmental uses, hotel and motels, and residential uses with limitations depending upon specific circumstances and environmental factors.

d. General Commercial

The general commercial designation includes uses not typically related to shopping centers, including professional and administrative offices, automobile service stations, plant nurseries, restaurants, outdoor storage and sales, and retail or service commercial uses.

e. Commercial Recreation

This category includes commercial recreation or leisure time activities, including amusement parks, miniature golf courses, go-cart tracks, equestrian centers, archery ranges, and sports clubs such as tennis, handball, and swimming.

f. Speciality Commercial

Included in this category are commercial uses with regional markets which may be grouped in one area to provide a particular service or product. An example would be the grouping of automobile dealerships into one center for the shopping convenience of the customer. Other uses which may be appropriate include commercial recreation facilities and retail commercial facilities which are related to, and supportive of, the primary specialty use theme.

6. Industrial

Industrial uses are divided into three categories:

a. General Industrial

The general industrial category includes, but is not limited to, the following types of activities: the manufacture of materials or products, assembly of components, services, construction, distribution or warehousing, administrative offices when associated with a manufacturing use, professional and business offices when related to a manufacturing use, and headquarter offices (regional or home offices) of industries.

b. Manufacturing and Research

This category is characterized by many of the uses listed above but is limited more to industrial research, assembly, and testing of components and mechanical equipment. Research in disciplines related to biology, chemistry, medicine, and pharmaceuticals is also allowed, as well as other related activities.

Commercial uses, when developed to provide direct service to employees of manufacturing plants, research laboratories, or offices may be allowed for the employees' convenience in either of the above categories. These commercial uses may include retail sales facilities, automobile service stations, restaurants, banks, and other similar uses.

c. Business and Industrial

This category is intended to create the opportunity for an intense urban environment with a mix of complementary land uses. Included are a wide variety of uses intended to serve primarily the business and industrial needs of the City. These include hotel/motel, finance, professional/medical offices, industrial, manufacturing, research and development, and other related uses. Additional uses which may be incorporated within this category to provide services, mitigate traffic impacts, and provide housing near employment sources, include residential and retail/support commercial.

7. Open Space

The open space designation is divided into a number of subcategories. Each of these subcategories is discussed in greater detail in the conservation and open space and/or parks and recreation elements. The following provides a brief discussion of each of the open space categories found on the land use plan.

a. General Open Space

This land use includes those areas not designated for any other development or open space use, including open space spines, hiking, equestrian, and bicycle trails, scenic lookouts, and open space related to public facilities. This category includes lands previously designated "City Park," including the open space spine on the easterly side of Jeffrey Road. (See conservation and open space element for a complete description of the open space spines.)

b. Regional Parks

Regional parks are large open space and recreational facilities provided by the County of Orange to serve the needs of residents of Irvine and surrounding areas.

c. Community Parks

Community parks are designed to serve more than one village, and vary in size but are generally 20 acres excluding greenbelts, trails, and adjoining school lands.

d. Wildlife Habitat

These are areas which have been identified as having significant wildlife population in areas where there is presently no encroachment by development.

e. Wildlife Preserve

Wildlife preserves are those areas where a sensitive and unique ecological system now exists and must be protected from urbanization because of the delicate balance which must be maintained to insure the survival of its natural inhabitants.

f. Nature Centers

Nature centers are public facilities established as part of the City's park and recreation system to provide environmental information and education to the public. They are generally located in or near wildlife habitats and preserves.

g. Golf Courses

This land use category includes both private and public golf courses, and those uses normally related to the function of a golf course, such as pro shops, retail sales, and restaurants.

h. Cemetery

This category may include cemeteries, mortuaries, chapels, caretaker's facilities, and other uses which are directly related to the function of a cemetery.

i. Water

This category includes all lakes (both public and private) and reservoirs.

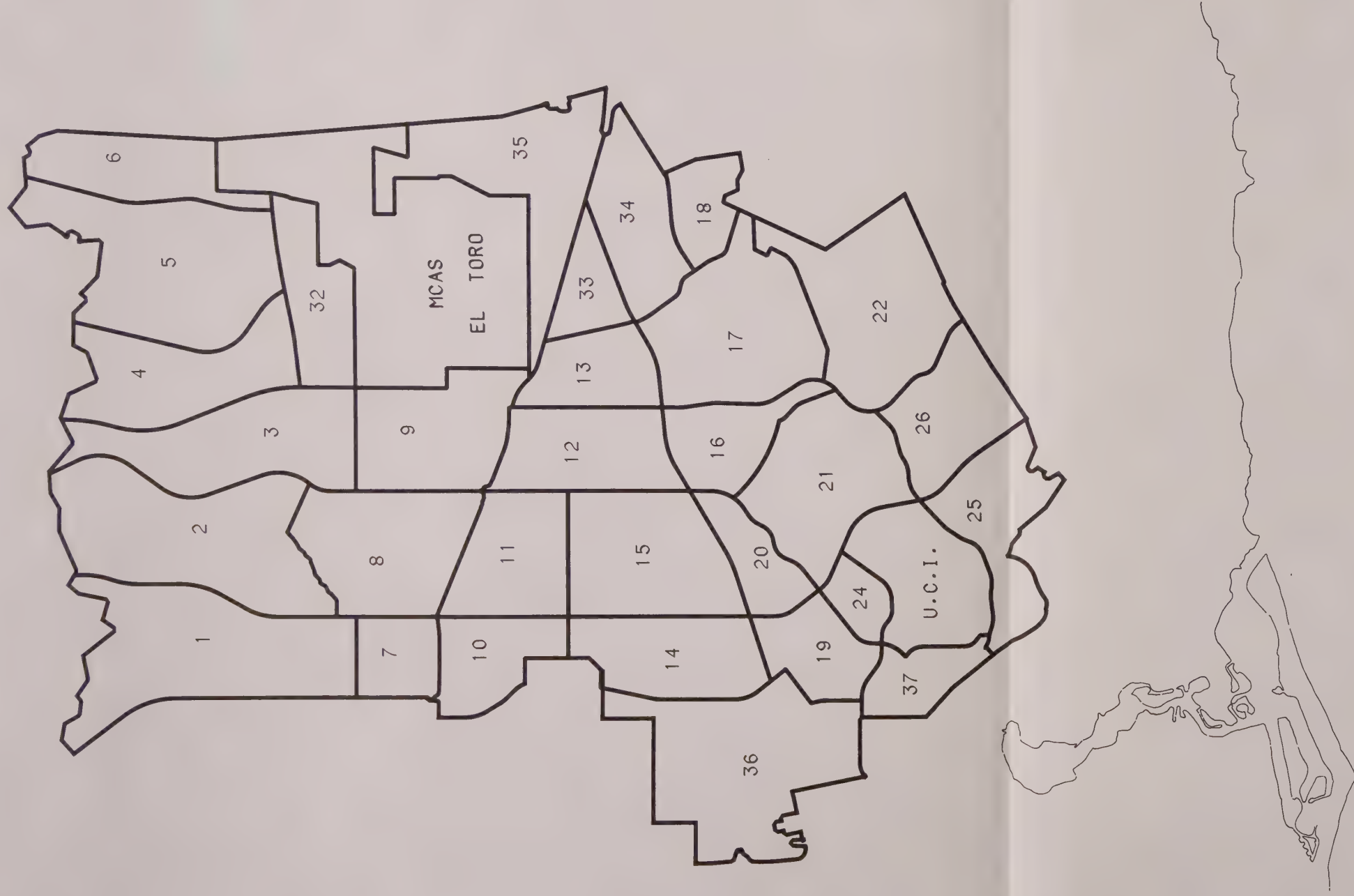
8. Multi-Use

This land use category is found solely in Village 14 and 10. The corridors of land designated as multi-use shall contain a mix of uses. The permitted uses are high density residential, commercial, institutional, parks, utilities, and related uses.

9. Solid Waste Facility

A solid waste facility is any facility involved with the processing, handling, transferring, or disposal of municipal solid wastes. Facilities include, but are not limited to, Class I and Class II landfills, transfer stations, composting facilities and waste-to-energy facilities. For purposes of this category, facilities accepting Group I wastes (hazardous wastes) are not considered a solid waste facility. Recycling facilities operations under State standards are not considered solid waste facilities.

Areas designated for residential development in the land use plan have been divided into residential "villages," as illustrated in Figure A-2. In addition, the figure delineates statistical areas which include primarily industrial, commercial, and agricultural land uses. Figure A-3 depicts the residential phasing plan which designates the various villages for development. The major objective of the residential phasing plan is to maintain a compact urban form overtime which minimizes the incremental costs of providing utilities and streets, preserves open space, and promotes City unity.



RESIDENTIAL VILLAGES AND
STATISTICAL AREAS

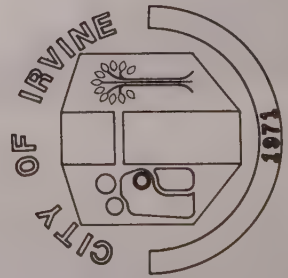
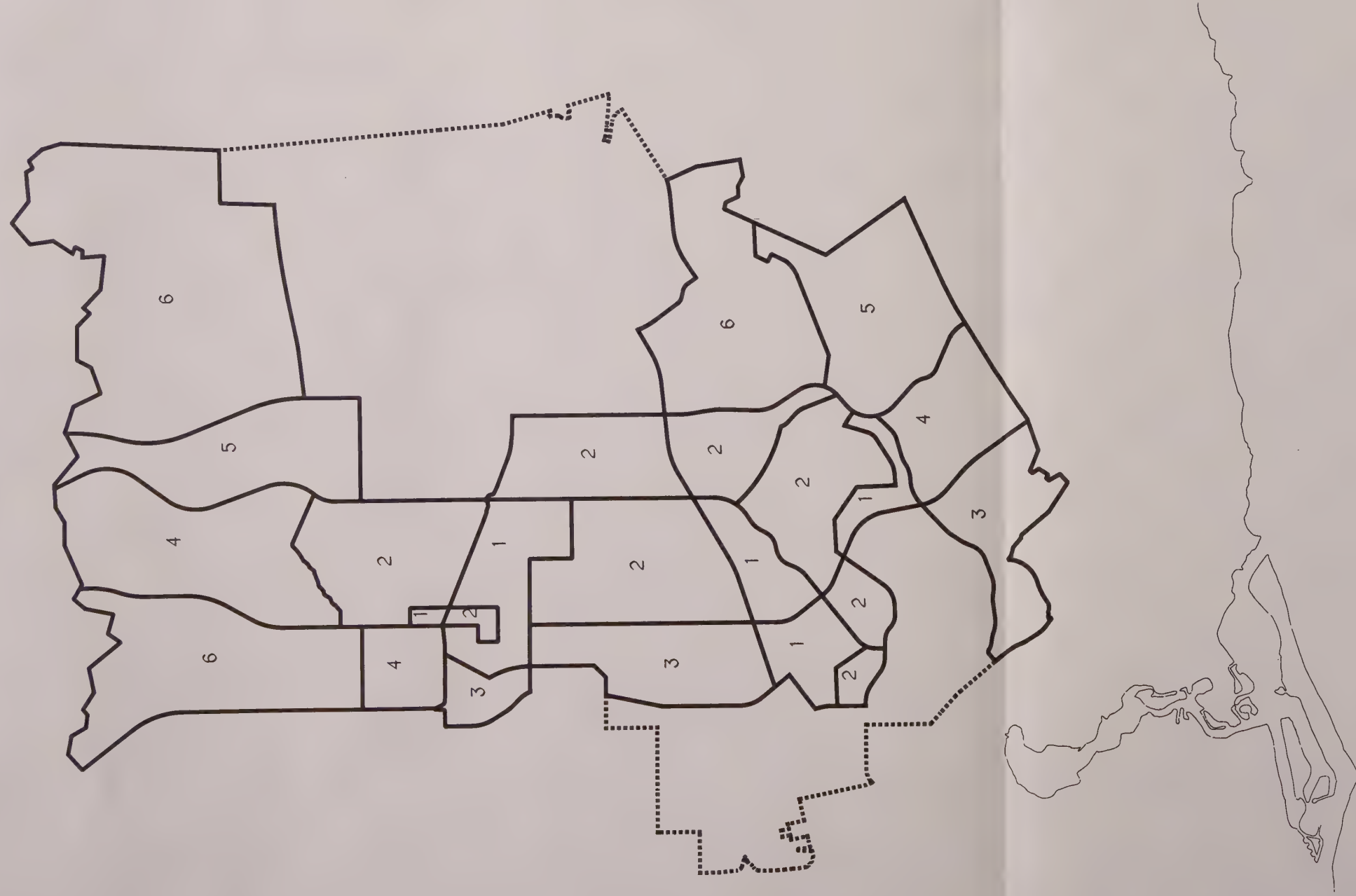


FIG. A-2

FIG. A-2



RESIDENTIAL PHASING

PHASES	FISCAL YEARS	
	TO 1974-75	
1	1974-75	TO 1979-80
2	1979-80	TO 1984-85
3	1984-85	TO 1989-90
4	1989-90	TO 1994-95
5	BEYOND	1994-95
6		

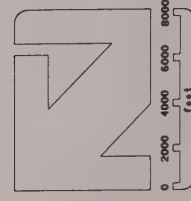
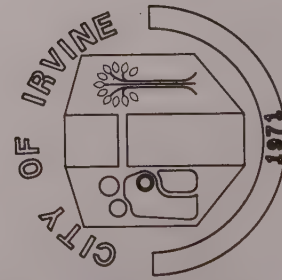


FIG. A-3

FIG. A-3

Existing Conditions

The City has grown rapidly since its incorporation in 1971 with the population growing from 20,156 to 76,010 as of January 1, 1984. This expansion has been concentrated within the central residential villages 8, 10, 11, 15, 19, 20, 21, and 24. Villages 12, 14, 16, and 25 are within their planned phasing period, but development has not yet been initiated.

Commercial and industrial development has paced residential expansion. At present Irvine Business Complex is rapidly expanding and the third and fifth phase of the Irvine Industrial Complex-East are beginning to develop. Commercial development in Irvine Center, the regional commercial center located in Village 33, has not been developed within the expected timeframe.

Trends

Buildout within the present City boundaries and expansion beyond into unincorporated land within the City's sphere-of-influence to incorporate the entire planning area is expected between now and the year 2020. Figure A-4 reflects the anticipated buildout ranges for residential dwelling unit count. Current projections estimate a population of about 208,200 at buildout. Projected land use acreages are shown in Figure A-5 for both the present City and the planning area. Future development will primarily add single family residential, agriculture, and open space uses to the City.

Identification of Issues

The following is a summary of the major land use issues in the City of Irvine:

1. Certain land uses can have negative impacts on adjacent land uses. How can the City achieve a harmonious land use pattern throughout the planning area?
2. Rapid growth can burden public facilities and services faster than the expansion of the tax base that supports them. How can the City identify the relative fiscal impacts of proposed development and determine proper residential phasing relative to overall growth and provision and quality of local services?

Response to Issues

The land use element attempts to balance the competing objectives of providing basic needs within the realities of a changing public and private economic environment. The adopted land use plan serves as a long range guide for the City's future growth and development. In addition to the land use plan, the City has adopted a goal, objectives, and implementing actions as a guide to the location, density, and distribution of various land use activities.

FIGURE A-4
DWELLING UNIT RANGE BY RESIDENTIAL VILLAGE

VILLAGE NO.	RURAL .1du/ac.	ESTATE .1-1.0du/ac.	LOW 1-5du/ac.	MEDIUM 5-10du/ac.	MED.HIGH 10-25du/ac.	HIGH 25-40du/ac.	TOTAL RANGE
1	22	22 to 225	876 to 4,380	1,450 to 2,900	0	625 to 1,000	2,995 to 8,527
2	96	0	638 to 3,190	905 to 1,810	430 to 1,075	0	2,069 to 6,171
3	87	0	0	0	0	0	87
4	84	0	0	0	0	0	84
5	175	0	0	0	0	0	175
6	95	0	0	0	0	0	95
7	0	0	0	970 to 1,940	1,010 to 2,525	175 to 280	2,155 to 4,745
8	0	0	648 to 3,240	1,445 to 2,890	700 to 1,752	0	2,793 to 7,882
10	0	0	0	1,215 to 2,430	650 to 1,625	0	1,865 to 4,055
11	0	0	323 to 1,615	1,985 to 3,970	840 to 2,100	0	3,148 to 7,685
12	0	0	0	415 to 830	1,660 to 4,150	350 to 560	2,425 to 5,540
14	0	0	0	2,580 to 5,160	1,860 to 4,650	825 to 1,320	5,265 to 11,130
15	0	0	458 to 2,290	3,310 to 6,620	1,180 to 2,950	0	4,948 to 11,860
16	0	23 to 230	189 to 945	590 to 1,180	0	0	802 to 2,355
17	13	48 to 474	245 to 1,225	0	0	0	306 to 1,712
18	0	0	261 to 1,305	0	350 to 875	0	611 to 2,180
19	0	0	0	230 to 460	950 to 2,375	0	1,180 to 2,835
20	0	0	93 to 465	1,230 to 2,460	340 to 850	0	1,663 to 3,775
21	0	0	738 to 3,690	0	450 to 1,125	0	1,188 to 4,815
22	69	15 to 148	422 to 2,110	135 to 270	270 to 675	0	911 to 3,272
24	0	0	58 to 290	350 to 700	380 to 950	300 to 480	1,088 to 2,420
25	0	33 to 332	180 to 900	165 to 330	0	0	378 to 1,562
26	30	66 to 655	118 to 590	0	0	0	214 to 1,275
32	34	0	0	0	0	0	34
33	0	0	0	0	200 to 500	625 to 1,000	825 to 1,500
TOTAL	705	207 to 2,064	5,247 to 26,235	16,975 to 33,950	11,270 to 28,177	2,900 to 4,640	37,304 to 95,771

FIGURE A-5

PROJECTED LAND USE ACREAGE

<u>LAND USE CATEGORY</u>	<u>CITY</u>	<u>SPHERE</u>	<u>TOTAL</u>
<u>RESIDENTIAL</u>			
SINGLE FAMILY	6,527	6,081	12,608
MULTI-FAMILY	430	60	490
MOBILE HOMES	106	0	106
SUB-TOTAL	<u>7,063</u>	<u>6,141</u>	<u>13,204</u>
<u>COMMERCIAL</u>	1,480	308	1,788
<u>INDUSTRIAL</u>	3,553	589	4,142
<u>AGRICULTURE</u>	533	4,020	4,553
<u>CIRCULATION</u>	4,194	3,713	7,907
<u>INSTITUTIONAL (1)</u>	4,193	4,361	8,554
<u>OPEN SPACE (2)</u>	<u>3,987</u>	<u>2,351</u>	<u>6,338</u>
TOTAL	26,299 (3)	21,797 (4)	48,096

(1) Includes all but not limited to the following land uses:

- A. Civic Center
- B. Elementary, intermediate and high school
- C. Junior college
- D. Private schools
- E. Utilities
- F. MCAS El Toro

(2) The open space category includes the following land uses:

- A. Private golf course
- B. Community parks
- C. Neighborhood parks
- D. Regional parks
- E. Other public open space
- F. Private open space (developed/undeveloped)
- G. State parks

(3) This total acreage figure includes the UCI central campus (1,340 acres).

(4) This total acreage figure includes the MCAS El Toro Air Station (3,890 acres)

GOAL A

LAND USE ELEMENT

Establish relationships between land uses that meet basic human needs, are efficient and harmonious, and balance costs and revenues over time.

To achieve this goal, the City of Irvine has adopted the following objectives and implementing actions:

OBJECTIVE A-1

Achieve harmonious uses on lands within and adjacent to the planning area.

Implementing Actions:

- a. Work with University of California, Irvine to develop only those uses within the University environs which are compatible with normal research, teaching, or operational functions of the campus.
- b. Encourage mutually beneficial relations between the University of California, Irvine and industry.
- c. Locate research and craft industries near the University of California, Irvine.
- d. Impose appropriate constraints on the following uses to ensure their compatibility:
 - Airports
 - Surface utilities
 - Non-residential commercial (motels, hotels, etc.)
 - Junk yards
 - Major "cut and fill" projects
 - Sand, gravel, or other borrow operations
- e. Consider the following land use activities non-harmonious with Irvine:
 - Strip commercial
 - Billboards
 - Polluting industries
- f. Permit the expansion of land uses shown on the land use plan, which are predicated upon the assumed location of CNEL contour lines shown on Figure F-1 and F-2 of the noise element, only after empirical studies of actual noise impact and based upon the land use compatibility criteria shown on Figure F-4 of the noise element.
- g. Insure that industrial uses do not have undesirable external effects on other land uses or the environment.
- h. Encourage industries meeting locally developed, county, and state pollution control standards. Prohibit industries not meeting these standards.
- i. Approve users of large quantities of water only if water and sewer agencies approve.
- j. Approve noise, odor, dust, water polluting, or producing activities only with mitigating measures.
- k. Group industrial uses in large centers rather than dispersing them through the community.
- l. Develop industrial centers with a landscaped urban park quality.

OBJECTIVE A-2

Insure that City revenues will be able to meet expenditures to provide a high level of services without a burdensome level of taxation.

Implementing Actions:

- a. Establish a balance of land uses that insures that the City will be able to provide necessary municipal services.
- b. Use the land use plan (Figure A-1) for sizing basic utility systems.
- c. Phase residential development in a way that minimizes the rapid extension of public facilities and services over large areas before full development (residential phasing plan, Figure A-3).
- d. Establish a large industrial area providing tax revenues in excess of cost of required services.
- e. Establish industrial uses as economically viable, attractive, and well related to other uses. Provide opportunities for a wide variety of sizes of industries from small enterprises to large corporations.
- f. Establish commercial uses as economically viable, attractive, interesting, and well related to other land uses.
- g. Insure a competitive market in which a choice of commodities is available to residents and monopoly is discouraged.
- h. Establish one regional commercial center, developed to include office activity. The appropriate location is the triangle of the San Diego, Santa Ana, and Laguna freeways.
- i. Encourage residential development in a manner that reduces expenditures for public services, systems, etc. by developing higher densities with public open space areas.
- j. Ensure the availability of adequate public facilities for any new development proposals.
- k. Encourage the preservation and maintenance of open space by individuals or community associations rather than the City through tax or other policies. Solicit private development of public use golf courses.
- l. Establish a city program to continually evaluate the relationship between projected city costs and revenues related to land use changes.
- m. Monitor expenditures for facilities and services to identify marginal costs of new development of various types, and modify development patterns and phasing, if required, to reduce municipal costs.
- n. Monitor a variety of factors relating to development demand, costs, and revenues, and use the information to refine implementation techniques and control.

- o. Establish a system of fees, taxes, and restrictions that encourages accounting for increased public capital and operating costs in decisions of private developers.
- p. Use native trees, shrubs, and grasses with low maintenance costs.
- q. Insure the viability of the economy of Irvine over time to prevent large public expenditures for renewal in the future.
- r. Provide flexibility in planning of villages and centers to respond to changing technological and market conditions.
- s. Take measures to encourage private rehabilitation, as buildings and equipment become outmoded, through tax or other policies.
- t. Develop industrial and commercial uses to provide tax income for capital investment for facilities serving residential development.

OBJECTIVE A-3

Approve development of Village 14 only after an evaluation of its fiscal effects and noise exposure, adequacy of city services and school facilities; and the existence of an adopted City annexation policy for the sphere of influence.

Implementing Actions:

- a. Adopt an annexation policy for the sphere of influence prior to development of Village 14.
- b. Upon the resolution of above, evaluate a phasing plan for the development of Village 14 at the time of zoning.
- c. Development approvals shall be dependent upon a commitment for future development in the Irvine Industrial Complex-East.
- d. Require the applicant to show, at the concept plan level, the various uses and their magnitude and locations within the multi-use corridors. The corridors shall contain a mix of uses. The permitted uses within the Village 14 corridors are high density residential, commercial, institutional, parks, utilities, and related uses.
- e. Restrict residential development to a density range that is neither higher nor lower than the density shown for that area on the land use plan, unless specifically authorized by the City Council at the time of zoning approval. Although the City Council may permit higher densities within an area, the overall density cannot exceed the maximum shown on the general plan for that area. For example, if, at the time of zoning the City Council permits some sites in the 5-10 dwelling units per acre to exceed 10 dwelling units per acre, the overall density for the area cannot exceed 10 dwelling units per acre.
- f. Consider the locations of the primary helicopter approach and departure corridors in the vicinity of Village 14 at the time of zoning and subdivision map approval. The land use pattern shall be designed to locate the non-residential uses in those areas to the maximum extent possible. In all cases, schools shall not be located under those flight paths. The location of the 65 CNEL noise contour of MCAS Tustin shall be considered in the subsequent planning of residential uses which may be impacted.
- g. Designate the commercial sites by on-site signs erected prior to construction of the residential uses.

OBJECTIVE A-4

Approve development of the Irvine Business Complex (IBC) with proper limitations on traffic generation and residential development.

Implementing Actions:

- a. Regulate the intensity of traffic generating uses through the Zoning Ordinance.
- b. Encourage a complementary mix of land uses to minimize traffic impacts.
- c. Cluster residential uses in locations which have minimal environmental impacts from surrounding uses or where such impacts have been mitigated.
- d. Consider IBC a residential village for the purposes of implementing the housing element and apply all housing element policies to residential development in IBC.

OBJECTIVE A-5

Relate commercial centers of appropriate sizes to the hierarchy of development areas from the village scale on up and encourage commercial centers as interesting centers of activity.

Implementing Actions:

- a. Designate a village center for each village.
- b. Encourage village center uses as those necessary to daily life of area residents, for example: grocery stores, liquor stores, barber shops, drug stores, beauty salons, small restaurants, hardware stores, and bicycle shops.
- c. Provide district commercial centers to serve more than one village to provide more comparison shopping, not to be identifiable with a particular village.
- d. Encourage a mix of day and night uses in commercial centers.
- e. Permit shared use of parking for off-hour activities (churches, movie theatres, etc.).
- f. Limit commercial uses in commercial centers to types and sizes compatible with their trade areas.
- g. Village centers should be accessible to bicycle and pedestrian trails.
- h. Village centers shall use profuse landscaping and architectural and sign controls.
- i. District centers shall include landscaped courts, bicycle trails, profuse landscaping, and architectural controls.

OBJECTIVE A-6

Ensure that the interim use of Coyote Canyon Landfill is done in an environmentally and aesthetically sound manner. (Villages 25 and 26)

Implementing Actions:

- a. The Coyote Canyon Landfill shall be maintained in an environmentally sound manner during the interim period (interim period refers to the period between closure and development of an after use).
- b. The City, the County of Orange, and the property owner shall enter into a cooperative study to determine what effective uses could be developed and maintained during the interim period for the Coyote Canyon Landfill. The results of the study should be incorporated into the closure plan for the landfill. A commitment to this study shall be required at time of conditional use permit review.

Standards

Residential Density Standards

- Rural - less than .1 Dwelling Unit/Acre
- Estate - 0.1 - 1.0 Dwelling Unit/Acre
- Low - 1.0-5 Dwelling Unit/Acre
- Medium - 5-10 Dwelling Units/Acre
- Medium-High - 10-25 Dwelling Units/Acre
- High - 25-40 Dwelling Units/Acre

Development may be permitted within an area at an overall density that is lower than the range indicated, at the discretion of the City Council, but will not be permitted at a higher overall density. A mix of higher and lower densities may be permitted within an area, but the overall density shall not exceed the density shown on the land use plan. In some areas, densities allowed at the zoning level may be substantially lower than shown on the General Plan if deemed necessary by the City Council to implement City goals, objectives, and implementing actions. Examples include, but are not limited to, the policies relating to hillside development.

Rural Residential Standards

Rural Density Residential require special consideration due to topography and other factors. Development standards for the rural land use designation are as follows:

Grading of slopes greater than 30 percent is prohibited, except where required to correct an unsafe condition.

Residential uses shall not be developed in areas which are identified for preservation at the time of zoning because of the presence of significant natural features relating to wildlife habitats, vegetation, topography, waterways, or similar factors.

A variety of housing types and densities are permitted as long as the overall density does not exceed one unit per ten (10) acres when calculated for all rural areas in a particular village, as identified in Figure A-2.

The permitted uses in the areas identified as rural on the land use plan are residential, agriculture, village commercial, parks, equestrian, open space, roadways, and institutional.

Development shall be clustered to the extent feasible so as to minimize the need for grading.

Development shall be located on the flatter portions of the sites in order to minimize the need for grading.

Commercial Center Standards

Regional Commercial: A major regional commercial and business center is proposed between the San Diego, Santa Ana and Laguna freeways. In addition, regional commercial development is proposed in specialized commercial centers.

Specialized Commercial Centers: Commercial centers having regional market areas and strong specialty orientation, such as home improvements, automotive, etc.

District Commercial Centers: Community shopping centers are proposed to serve a number of villages with service populations from 40,000 to 100,000 people. These centers provide comparison shopping and are developed at a standard of .4 acres per 1,000 people.

Village Commercial Centers: Small local centers serving 5,000 - 10,000 people, helping to serve as focal points of villages. Because the requirements for the amount and type of convenience goods provided by village centers varies from one area to another, it is best to have a standard that is flexible, with high and low parameters. These centers should be provided at a standard of .8 to 1.4 acres per 1,000 people.

Related Objective Numbers

Urban Design Element - B-1, B-2, B-3, B-4

Housing Element - C-3, C-5

Circulation Element - D-1, D-2, D-3, D-4, D-5, D-6, D-7

Scenic Highways Element - E-2

Noise Element - F-1

Public Facilities Element - G-1

Waste Management Element - H-1, H-2

Safety Element - J-1, J-2

Parks and Recreation Element - K-1, K-2, K-3, K-4

Conservation and Open Space Element - L-1, L-2, L-3, L-4

Seismic Element - M-1, M-2

Cultural Resources Element - N-1, N-2

Compliance Regulations

City of Irvine Zoning Ordinance

California Subdivision Map Act

City of Irvine Subdivision Ordinance

California Environmental Quality Act (CEQA) and Implementing Procedures

City of Irvine Capital Improvement Program

Uniform Building Code as Supplemented by the City of Irvine

URBAN DESIGN ELEMENT

California Planning and Zoning Law does not require an urban design element in local general plans. This element describes an urban design structure which will provide the planning area with character and form as it develops.

Description of Urban Design

The design of a City can be consciously ordered to improve how well things look and how well they serve their purpose. Urban design focuses on this overall design of the planning area, as opposed to the planning and design of individual sites. To accomplish this, the various land uses of the City have been organized and unified by an "urban design structure." The open space system, the circulation network, and the village and district structure comprise the overall urban design structure. The urban design structure provides a framework in which a unified City is created, with an image of overall identity for its residents. It guides the growth of the planning area, while preserving the natural environment and maintaining individual project and future planning flexibility.

Urban design complements the land use element of this general plan. While the land use element describes what uses may be placed in a specified area, urban design describes the interrelationships of those uses within the urban design structure. The urban design element is also strongly related to the circulation, and conservation and open space elements.

Existing Conditions

The planning area has been divided into a series of villages and statistical areas as illustrated in the land use element, Figure A-2. In residential villages the land is designated primarily for residential development. Statistical areas include primarily industrial, commercial, and agricultural land uses. The villages and statistical areas are defined by either open space elements or arterial streetscapes. A residential village can be designed to house a similar or deliberately diversified mix of life styles and contains a variable mix of public facilities depending on its size. A residential village has a population ranging from 2,000-10,000 people for hillside areas and 5,000-30,000 people for flatland areas. Neighborhoods are subunits of villages, and in Irvine, are generally synonymous with tract increments. The central activity corridor serves to link the flatland villages with the statistical areas at the east and west ends of the City. This activity corridor, with its mix of public and private facilities, provides a unique opportunity for functional and visual reinforcement of activities, achieving a distinctive environment within the City fabric.

Villages are aggregated into units called districts. Districts are medium-to-large sections of the City which can be recognized because of some common identifying character, i.e., hillside villages. District centers have a mix of larger scale public facilities, higher density housing, and commercial facilities. District centers promote City unity by the establishment of unique facilities in each center that attract residents from other villages.

The City is further unified and organized by the open space and circulation systems. The three primary components of the open space system are the open space spines, the permanent agricultural areas, and the recreation/open space activity centers, which are

fully described in the conservation and open space element. The open space spines serve to join the northern and southern districts of the City. The recreation/open space activity centers provide connections between villages. The open space system is especially important in the flatland villages, where it is a defining element, giving an overall design character to the development. The central activity corridor is a major component of the open space system. The open space system provides general corridors for many elements of the City-wide and regional circulation systems.

The circulation system, which is described in the circulation element, is a multi-modal system. Residential villages are connected together, to the major employment districts, and to the district centers through public transit, trail, and road systems. The hiking and equestrian trails provide access to the open space system. The widely spaced arterial highway and freeway grid maintains the integrity of the villages by defining village boundaries and routing through trips around the residential villages.

Trends

Plans for entire new villages are being prepared, as development in existing residential villages is completed. As the plans for new villages are formulated, the open space system will play an increasingly important role when development adjacent to the north-south open space spines is implemented. As the development of the planning area expands, it will become increasingly important to create a unified City image. As the City continues to grow, urban design features will continue to be implemented as part of the development process.

Identification of Issues

The following is a summary of major issues in the City of Irvine regarding urban design:

1. Entry points and City edges are currently undefined or lacking distinction from adjacent cities. How can Irvine create an identity for the City within the region?
2. The 78-square-mile scale of the planning area and the fact that the freeways strongly divide the City make it difficult to create a unified City. Villages can become internalized, instead of being a part of the larger City. Given these constraints, what can be done to create a unified City?
3. The planning area possesses an abundance of natural features that can lend variety, distinction, and unity to the development of the City. How can these features be preserved?
4. While the citizens of Irvine wish to maintain quality design in the City as it develops, over-control of design could lead to sameness and controlled sterility. How can a balance be achieved?

Response to Issues

The urban design structure responds to a varied set of citizen objectives and planning area constraints. Utilization of the following goal, objectives, and implementing actions increases the ability of the City to implement the urban design structure.

GOAL B

URBAN DESIGN ELEMENT

Create a visually attractive, efficiently organized, identifiable, and hill-related City.

This goal is supported by the following adopted objectives and implementing actions:

OBJECTIVE B-1

Create a visual and active identity for the City within the region.

Implementing Actions:

- a. Develop, where possible and appropriate, identifiable City edges, pathways, entry points, and landmarks that distinguish Irvine from the surrounding region.
- b. Relate City boundaries to natural systems boundaries (hills, open space) and to the location of other political entities.

OBJECTIVE B-2

Create a hierarchy of City components that consist of city, district, village, neighborhood, project, and building scales.

Implementing Actions:

- a. Join city, district, and village centers of activity to the extent possible by appropriate levels of public circulation and open space systems.
- b. Define the various components of the City, to the extent possible, by visual and/or functional edges.
- c. Relate the size of visual and functional open space to development densities to create identity, visual relief, and activity spaces of adequate proportions.
- d. Utilize building masses, architecture, and landscaping to create a sense of unity within variety for the various components of the City.
- e. Emphasize villages as important community elements with diverse characteristics within a unified framework.
- f. Implement the concept of a multiple focal point City, designed to minimize congestion, support a dispersed, auto-competitive transit system, encourage conveniently located facilities and services for each district, and create City unity by establishing some unique facilities in each center that will attract residents from other districts.
- g. Require that all village and district center planned community designs respond to the network open space concepts described in the conservation and open space element and to the Environmental Factor Overlays contained in the Zoning Ordinance.
- h. Require coordination of planning for the public and private facilities comprising the activity corridors.
- i. Create detailed system designs for the critical city-wide structuring elements of open space, circulation and major edges, and entry points in coordination with appropriate county, state, and federal agencies and with The Irvine Company and University of California, Irvine.
- j. Establish, in cooperation with the Irvine Unified School District, University of California, Irvine, and The Irvine Company a program of public information and education regarding the proposed urban design framework and ongoing urban design process.
- k. Distinguish villages in character and physical appearance from each other, considering the following characteristics:
 - Physical and visual separation and differentiation
 - Physical compatibility with the local environment including topography
 - A mixture of housing types and densities
 - A range of age and income groups

- A variety of public and private facilities
 - Activity nodes
 - A varied "skyline"
 - Functional relationship between the parts and elements of the community
1. Relate village unit boundaries to natural and man-made open spaces wherever possible or to arterial streetscapes.
 - m. Create edges that can serve as visual and acoustical barriers, and activity spaces depending upon their location and function.
 - n. Relate city (village, district) unit boundaries to natural systems boundaries and to major existing edge conditions such as the freeways and created edges, such as open space spines.
 - o. Continue the utilization of Citizen Urban Design Committees for the various aspects of urban design implementation outlined in the general plan.

OBJECTIVE B-3

Utilize architecture to help reinforce the identity and image of City components and to create visually and functionally beautiful and useful buildings.

Implementing Actions:

- a. Establish a design preview/review process which utilizes the talents of City staff and citizens including community associations to both establish guidelines, review performance, and evaluate the relationships between precise area plans and the overall design objectives of the general plan.
- b. Create Civic District Overlays in the Zoning Ordinance and a set of design guidelines for the development of each district center.
- c. Base building design criteria on not only architectural styles, but on functional requirements such as solar and wind orientation, maintenance, privacy, etc.

OBJECTIVE B-4

Preserve the image of Irvine as a hill-related City.

Implementing Actions:

- a. Create hillside development guidelines and overlay zones to:
 - Arrange hillside development to respond to wildlife habitats and unique geologic formations, to minimize changes in water runoff patterns, and to extend the functional and visual pattern of habitat related vegetation from public areas into private areas by the creation of estate or low density developments;
 - Define hilltop preservation zones which relate to local geologic formations and extremely steep slope areas;
 - Emphasize, where other conditions are uniform, maintaining the faces of the hillsides which will be visible to people residing in the central flatlands;
 - Preserve portions of hilltops in each hillside village to maintain public views;
 - Permit some higher density developments at points of distinctive topography; and
 - Describe the localized aspects of hillside developments.
- b. Develop a ridgetop park running east-west along the San Joaquin ridge to insure public access and enjoyment of this ocean fronting ridge with the spectacular valleys to the Pacific Ocean.
- c. Balance the desire for hillside images with the costs of land acquisition and maintenance.

Standards

(Reserved)

Related Objective Numbers

Land Use Element - A-2, A-5

Housing Element - C-3

Circulation Element - D-2, D-3, D-4, D-5, D-6, D-7

Scenic Highways Element - E-1

Public Facilities Element - G-1, G-2

Parks and Recreation Element - K-1

Conservation and Open Space Element - L-1, L-3, L-4

Compliance Regulations

City of Irvine Zoning Ordinance

California Subdivision Map Act

City of Irvine Subdivision Ordinance

California Environmental Quality Act and implementing procedures

City of Irvine Uniform Building Code

City of Irvine Landscape Design Manual

City of Irvine Street Design Manual

City of Irvine Hillside Development Manual

I-C

HOUSING ELEMENT

The housing element is the component of the general plan mandated by California Planning and Zoning Law Section 65302(c). The housing element provides citizens and public officials with an understanding of the housing needs of their community. It evaluates the capacity of the existing housing supply to provide all income groups with decent housing and projects what housing needs are anticipated in the near future. This analysis forms the basis from which Irvine has developed goals, objectives and implementing actions to address these needs.

Description of Housing

The state housing element requirements specify that local jurisdictions shall make adequate provision for the "existing and projected housing needs of all economic segments of the community." The requirements further specify that each city's housing element shall include: a needs assessment, goals, objectives and policies relative to the maintenance, improvement and development of housing; and a five year schedule of implementing actions designed to achieve the stated goals and objectives. All objectives and implementing actions in Irvine's housing element are consistent with the other elements of the general plan.

The health, safety, and welfare of Irvine residents is linked to the stability of Orange County's economy. The more diverse the economic base of a region is, the less sensitive it is to disruptive swings in any particular industrial sector. The degree to which the County's economy is diversified depends on the range of skills available in its labor force. Whether or not the labor force is available depends on the availability of housing for all income groups.

The range of housing opportunities available in individual jurisdictions in Orange County differs depending on their historical development and current market conditions. Future additions to the County's overall housing stock will not be affordable to low and moderate income households unless the public and private sector takes actions to encourage the provision of such housing. In order to distribute the provision of low and moderate cost units on an equitable basis, each jurisdiction in Orange County should encourage the provision of sufficient lower cost units so that people employed in the jurisdiction also have an opportunity to live in the jurisdiction. In doing so, it must be recognized that each jurisdiction has unique characteristics such as its topography, age of housing stock, growth rate, and land values which affect its ability to respond to housing needs.

Irvine's responsibility along with other Orange County cities is to strive to insure that, as its housing stock expands, the proportion of units which are affordable to different income groups enables the County to retain a diversified labor force and to provide a range of housing opportunities.

Existing Conditions

Land Inventory

The City of Irvine has been divided into planning areas or "villages" (see land use element and urban design element). This approach maintains a sense of neighborhood cohesiveness and provides a sense of identity to residents. Both the residential development and the zoning process use the village as the basic planning unit.

Irvine has developed a phasing plan based on villages which shows when land can be developed. This plan, in five-year increments, starts with 1975 and continues to beyond 1995. This plan is designed to coordinate residential construction with the extension of public services and facilities, and thus prevent expensive, isolated residential development.

Most of the vacant land within the City is zoned as development reserve. The fact that land is in reserve does not mean it cannot be developed. In almost all cases, the land is not yet in phase for development under the phasing plan. Before any residential development occurs, a zone change to a residential category must be approved. Irvine has made it a practice to approve zoning on a village scale, which allows for an analysis for all potential impacts of development. Zone changes for development are handled within a one-year period, as required by law. As a result, zoning is not considered a barrier to the availability of residential land for development.

As of 1983, the City has zoned approximately 5,748 gross acres for residential development. (This does not include the mixed use areas in Woodbridge and University Town Center (UTC), both of which currently include or are proposed to include residential development.) This represents 43% of the land in residential villages which are zoned for development. The land is zoned for the development of 41,300 dwelling units, of which only 28,000 have been developed. This leaves a capacity to provide at least 13,300 dwelling units without further zoning approvals. City staff project a residential building rate of approximately 2050 units per year in the next five years. Given this rate of development, it would take at least six years to absorb the capacity currently available.

There are other potential sites available for residential development. As mentioned, the mixed use corridors in Woodbridge and UTC both will have residential development. The Woodbridge activity corridor is proposed to have 400 dwelling units and the UTC area to have between 800 and 2,000 dwelling units. The Irvine Business Complex (IBC) could also accommodate residential sites. All sites in IBC currently zoned Mixed Use may be developed as residential with a conditional use permit. The above sites would not require any additional zoning to allow residential development.

There is also a potential for the development of 26,000 units on sites in villages designated in the land use element for residential uses but not yet zoned. Of these villages, several may be zoned within the next five years. The potential for residential development during this time period could be as high as 16,000 dwelling units, if developed at the maximum density defined in the land use element. Figure C-1 summarizes the number of acres shown for residential use by density range as well as the potential unit count.

Figure C-2 compares the current count in each of the villages with the projected count at ultimate development. It shows that Irvine anticipates approximately 40,000 additional units to be built within the existing City boundaries on land designated for residential uses.

Given the availability of zoned and vacant potential residential sites in the City, it is not necessary at this time to change non-residential uses to residential uses, to supply adequate sites for housing.

FIGURE C-1

POTENTIAL RESIDENTIAL DEVELOPMENT UNDER IRVINE'S GENERAL PLAN

	<u>DENSITY CATEGORY (2)</u>	<u># OF ACRES</u>	<u># OF UNITS</u>	<u># OF UNITS</u>
EXISTING BOUNDARY (1)	Rural (0.1 Du/Ac)	1780	178	0.2%
	Estate (0.1-1.0 Du/Ac)	1184	118-1184	1.5%
	Low (1-5 Du/Ac)	4253	4253-21265	26.8%
	Medium (5-10 Du/Ac)	2911	14555-29110	36.8%
	Med High (10-25 Du/Ac)	1006	10060-25150	31.7%
	High (25-40 Du/Ac)	59	1475-2360	3.0%
	SUBTOTAL: CITY	11193	30639-79247	100.0%
SPHERE OF INFLUENCE	Rural (0.1 Du/Ac)	5270	527	3.2%
	Estate (0.1-1.0 Du/Ac)	880	88-880	5.3%
	Low (1-5 Du/Ac)	994	994-4970	30.1%
	Medium (5-10 Du/Ac)	484	2420-4840	29.3%
	Med High (10-25 Du/Ac)	121	1210-3025	18.3%
	High (25-40 Du/Ac)	57	1425-2280	13.8%
	SUBTOTAL: SPHERE	7806	6664-16522	100.0%
	TOTAL:	18,999	37,303-95,769	

SOURCE: Community Development Department - November, 1978
General Plan Amendment No. 4 - September, 1977

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- (1) This section includes the entire unit count from Village 2 which is split by the Irvine city boundary.
- (2) The number of units shown for each density range in the City section do not correspond to the City totals in Figure C-2. Figure C-2 uses the actual unit count or zoning rather than the General Plan in certain villages in arriving at the City totals.

FIGURE C-2
CAPACITY REMAINING FOR RESIDENTIAL DEVELOPMENT

VILLAGES IN CITY BOUNDARIES		CURRENT UNIT COUNT					ULTIMATE UNIT COUNT (1)								CAPACITY REMAINING		REMARKS
		BY DENSITY RANGE (DU/ACRE)				TOTAL	BY DENSITY RANGE (DU/ACRE)										
		LOW 1-5	MEDIUM 5-10	MED HIGH 10-25	HIGH 25-40		RURAL 0-1	ESTATE 0.1-1.0	LOW 1-5	MEDIUM 5-10	MED HIGH 10-25	HIGH 25-40	TOTAL				
ZONED FOR RESIDENTIAL DEVELOPMENT																	
8.	Northwood	1,256	2,856	726	0	4,838	0	0	1,216	7,222	1,190	0	8,412	3,574	Zoning approved (2)		
10.	Walnut/Home Improvement Center	728	575	248	0	1,551	0	0	728	825	975	0	2,528	977	Zoning approved (2)		
11.	El Camino Real	1,358	2,968	915	0	5,241	0	0	1,358	2,968	915	0	5,241	0	Partial zoning (3)		
12.	Orangetree/Orchard	0	0	533	92	625	0	0	0	0	1,234	92	1,326	701	Built-out (4)		
14.	Culverdale	225	235	0	0	460	0	0	225	235	0	0	460	0	Partial zoning (3)		
15.	Woodbridge	1,684	3,768	1,742	150	7,344	0	0	1,798	4,886	2,665	150	9,500	2,156	Zoning approved (2)		
19.	Rancho San Joaquin	0	343	1,248	0	1,591	0	0	0	343	1,248	0	1,591	0	Built-out (4)		
20.	University Park	844	1,604	296	0	2,744	0	0	844	1,604	296	0	2,744	0	Built-out (4)		
21.	Turtle Rock	1,589	394	352	0	2,335	0	0	3,456	0	1,045	0	4,501	2,166	Zoning approved (2)		
24.	University Town Center	0	0	374	806	1,180	0	0	0	0	3,762	1,238	5,000	3,820	Zoning approved (2)		
SUBTOTAL		7,684	12,743	6,434	1,048	27,909	0	0	9,625	18,083	13,330	1,480	41,303	13,394			
NOT YET ZONED FOR RESIDENTIAL DEVELOPMENT																	
10.	Walnut	0	0	0	0	0	0	0	0	1,081	463	0	1,544	1,544	Agricultural zoning		
12.	Village 12	0	0	0	0	0	0	0	0	830	2,175	560	3,565	3,565	Agricultural zoning		
14.	Village 14	0	0	0	0	0	0	0	0	4,600	4,650	1,320	10,570	10,570	Agricultural zoning		
16.	Quail Hill	0	0	0	0	0	0	230	945	1,180	0	0	2,355	2,355	Agricultural zoning in Phase 2 (1975-1980)		
17.	Village 17	0	0	0	0	0	13	474	1,225	0	0	0	1,712	1,712	In agriculture preserve (2/3 has notice for 1983; 1/3 has no notice; agricul- ture zoning; Phase 6 (after 1995)		
18.	Village 18	0	0	0	0	0	0	0	1,305	0	875	0	2,180	2,180	In agriculture preserve; no notice; agriculture zoning; in Phase 6 (after 1995)		
22.	Village 22	0	0	0	0	0	69	148	2,110	675	675	0	3,272	3,272	In agriculture preserve; no notice; agriculture zoning, in Phase 5 & 6 (1990-1995, after 1995)		
25.	Village 25	0	0	0	0	0	0	332	900	330	0	0	1,562	1,562	Divided into two sections; part of "B" in agriculture preserve, notice for 1981; agriculture zoning; in Phase 2 & 3, (1975-1980, 1980-1985)		
SUBTOTAL		0	0	0	0	0	82	1,184	6,485	8,291	8,838	1,880	26,760	26,760			
TOTAL		7,684	12,743	6,434	1,048	27,909	82	1,184	16,110	26,274	22,168	3,360	68,063	40,154			

SOURCE: Land Use Inventory for Irvine Economic Model, Community Development Department, December 1978, General Plan Amendment 4, December 1977.

1. Except as noted below, count is based on maximum permitted by General Plan Land Use Element as revised by Amendment 4.
2. Ultimate unit count based on approved zoning as of January, 1984.
3. Only part of this village is zoned for development. The statistics shown are for that portion only; the date for the remainder of the village is listed under the section villages "not yet zoned for residential development."
4. These villages are built out; ultimate unit count based on actual number of units as of December, 1978.
5. A portion of the medium density and all of the medium high density is in a mixed use area allowing residential, commercial, and commercial recreation. The unit count shown above assumes 1/2 of the acreage in these areas will be developed as residential.

Housing Characteristics and Costs

As of 1980, the City of Irvine had a total of 22,488 housing units. (All census charts and sources of documentation are contained in Appendix A). This represents a 96% increase from the 1976 total of 11,471 units and a 150% increase from the 1973 total of 8,979 dwelling units. Over the seven-year period, the City added an average of 1,750 units per year. With the exception of farm worker housing, the City's housing stock is less than 20 years old. Since the housing stock is new, none of the units are classified as deteriorated or requiring any rehabilitation.

In the census, the largest percentage of the total units, (83%), were single family. This category included detached and attached units, including duplexes, townhomes and condominiums. Fourteen percent (3,186) of the total dwelling units were apartments. The UCI campus also contained apartments and residence halls. These units are available only to university students, faculty and staff, depending on the particular development. There were two mobile home developments in the City. At the time of the 1980 Census, mobile homes accounted for 3% of the total dwelling units in the City. Of the total dwelling units in the City, 73% were occupied by owners while 27% are occupied by renters.

The vacancy rate shown by the 1980 Census was 5.1% for all housing units. This figure is slightly lower than the 5.8% vacancy rate determined by the Southern California Association of Governments, the area-wide planning agency. Since both these figures include units in the final stages of construction, but not yet occupied, the vacancy rate could be an inflated figure. The Census listed only 843 (3.7%) units as either vacant for sale or rent. This figure increases to 5.1% when "Other" units (i.e., under construction, not yet occupied, etc.) are included. Vacancy rates are compared to a standard to indicate whether the housing market is "tight" or "soft." The minimum vacancy rate which still allows for movement is considered 2% for owner units and 5% for rental units. Below these levels, a housing shortage exists and prices will rise based on demand alone.

In 1980, the median value of detached, owner-occupied units was \$136,400. This is a 43% increase from the 1978 value of \$95,000. The lowest-priced units available were in the Park Vista moderate income development, with prices starting at \$70,000.

For homeowners, the census listed the median mortgage payment for single family detached units as \$751. Of the 1980 moderate income households, 17% were paying more than 30% of their income for housing; and of the low income households, 10% were paying more than 30% of their income for housing costs.

In 1980, the lowest rental rates in the City ranged from \$375 per month for a one-bedroom unit and \$490 per month for a 3-bedroom unit, both in Park West Apartments. The census median defined rent was \$454 per month. A comparison of rental rates for apartments shows that rents increased 36% between 1975 and 1978 and 25% from 1978-1980, in both cases an average of 12% per year. Only 10% of the moderate income renter households paid more than 30% of their income for housing, while 25% of the low income renter households paid more than 30% of their monthly income for housing.

Population and Household Characteristics

By the 1980 Census, Irvine's population was 62,134. This is an increase of 18% since 1978, and a 91% increase since 1976. There were a total of 21,337 households in 1980, which is nearly double the number in 1976. Of all households, 79% were headed by men and 21% by women, as compared to 1978 when 85% of the households were headed by men and 14% by women. Of family households with persons under 18 years of age, nearly 19% were headed by a single parent, and 14% had a female head of household. Nearly four percent of the households are headed by persons over age 65, compared to 2.8% in 1976.

The majority of households living in the City of Irvine have between two and four members, with less than 3% having more than six members. There was an average 2.77 persons per unit in 1980, a decrease from 3.16 in 1976 and 3.36 in 1973. Irvine's Housing Assistance Plan identified 329 households as having more than 1.01 persons per room which is the census definition of an overcrowded household.

A significant number of Irvine's households were in the higher-income categories: 41% of the 21,337 households reported earning more than \$35,000 in the 1980 Census and 76% earned more than \$20,000. Only 18% of the households in Irvine earned less than \$20,000, with 5% of them earning less than \$10,000. In 1979, the median income in Irvine was \$31,300, compared to the Orange County's median income of \$23,000. In 1976, 45% of the households earned less than \$20,000 a year, and 16% earned less than \$12,000.

Employment

The 1980 Census listed 34,666 Irvine residents in the labor force primarily in private wage and salary businesses. This represented 75% of the Irvine residents over age 16. Of those normally in the labor force, 56% are men and 44% are women. Sixty-two percent of the families have two or more workers. The majority of persons are employed in managerial and professional specialty occupations, closely followed by persons in technical, sales and administrative support positions. The unemployment rate was less than 3% in 1980.

Recently released census update information revealed that 25% of Irvine's work force works inside the city limits and 86% work inside the county limits. The median travel time to work was 20 minutes, which was slightly less than the average commute time for all county residents.

The remaining employment characteristic pertaining to Irvine's housing need is those persons working in Irvine, whether or not they are residents of Irvine. In 1980, City staff estimated that 68,741 persons were employed in businesses located in the City of Irvine. This increased from 54,150 in 1978 and 37,956 in 1976. Fifty-thousand persons working within the City were employed in businesses located in the Irvine Business Center (IBC). The second largest employment area is the Irvine Industrial Complex - East where 4,300 persons were employed in 1980. The largest single employers within the City continue to be the University of California, Irvine and the Fluor Corporation.

City staff has made future employment projections as part of the Irvine Transportation Analysis Program Model projections. The Irvine Business Center was rezoned in 1983 and, as a result more commercial and business oriented uses are permitted as opposed to previous regulations which limited development to industrial uses and corporate head-quarter offices. Irvine Center is proposed to be a regional center composed of commercial, professional and retail uses. The projected future employment for the city is:

PROJECTED EMPLOYMENT

<u>Area</u>	<u>1985</u>	<u>1990</u>	<u>2000</u>
IBC	63,326	72,280	76,552
IIC-E	15,064	20,321	20,887
Irvine Center	0	4,791	20,788
Other	<u>27,332</u>	<u>40,759</u>	<u>44,579</u>
TOTAL	105,722	138,151	162,806

Irvine's Housing Need

The first and most fundamental step in analyzing Irvine's housing needs is determining the scope of Irvine's responsibility. The state housing element requirements specify that local jurisdictions "shall make adequate provisions for the housing needs of all economic segments of the community." In defining community, Irvine has included its current residents and its share of the housing needs of both current and future employees working within its boundaries.

It is difficult for individual localities to make an accurate estimate of regional housing needs so as to evaluate their own share of the need. To assist localities in evaluating their share, area-wide planning organizations have prepared regional housing allocation models (RHAM). The area-wide organization which encompasses Irvine is the Southern California Association of Governments (SCAG). Its region consists of Los Angeles, Orange, Ventura, San Bernardino, Riverside and Imperial Counties. The allocation model was adopted by the SCAG Executive Committee in April, 1983. After reviewing the housing allocation model, staff has decided to accept the plan and its local housing estimates.

The allocation model is divided into two parts: Part I defines current needs and general information; and Part II defines a five year projection of housing needs. The data in Part I and Part II are derived from census information and facts, assumptions and formulas used by SCAG (Appendix B).

Part I: Current Needs and General Information

The allocation model lists 25,476 households in Irvine as of January 1, 1983. Of these households, 1,525 are lower income households paying over 30% of income for housing.

Households Paying More Than 30% Income for Housing

<u>TOTAL</u>	<u>OWNERS</u>		<u>RENTERS</u>	
	<u>Very Low</u>	<u>Low</u>	<u>Very Low</u>	<u>Low</u>
1,525	758	767	536	538

Very Low = 50% of the Orange County median income or below
 Low - 50 to 80% of the Orange County median income

The allocation model estimates that households paying more than 30% of income for housing represents only 18% of the total number of lower income households. Therefore 82% of the current lower income households in Irvine do have affordable housing and so, for the most part, this need has been met.

Part II: Future Needs (January 1, 1983 - January 1, 1988)

Irvine's future need, until 1988, is defined by overall household growth, vacancies, and housing units needed to avoid an over or under concentration of households in any one income category. The first two factors define the total number of dwelling units that will be needed to house the population in 1988. The third factor defines the income categories to which those dwelling units to be constructed should be dispersed to result in each City in the SCAG region having a relatively balanced distribution of income categories.

According to the model, in future housing development Irvine should plan to add units targeted towards very low and low income households and plan for less units targeted towards moderate and upper income households. The model's goal for Irvine to meet its housing need is to produce 15,229 dwelling units by 1988 for the following income groups.

1,936	Very Low
1,893	Low
3,015	Moderate
8,385	Upper
15,229	Units required to meet the 1988 RHAM need

Special Housing Needs

Large Families: Irvine's current population includes 2,267 households with five or more members, or 10.6% of the total households. This is a decrease from 1976, when 15.4% were large family households. (This is further evidenced by the decrease in persons per households from 1976-80.) Although the percentage of large households is decreasing, there still exists a need for larger dwelling units. This has been considered in the development of market rate and low income housing. Since 1980, the low income apartments developed in the City have been primarily two, three and four bedroom apartments. In addition, recently developed market rate apartments have included three bedroom units.

Handicapped: Accurate statistics on the number of handicapped residents in Irvine are difficult to obtain. It is reasonable to assume, however, that this need does exist in the City even if its magnitude is unknown. To date, at least 5% of the subsidized units for senior citizens have been developed as handicapped accessible units. Also, the low income family apartments have included handicapped accessible units. This trend is expected to continue, should future senior units and low income family be developed. If a greater need develops, the City will attempt to include it in the Community Development Block Grant program. Development of other low and/or moderate income housing units will also be encouraged to include handicapped designed units within their projects.

Single Headed Households: The 1980 Census estimates that 18.5% of Irvine's households are headed by single parents. Of this total, 76% are female single parent headed households. There is no specific census data to determine what percentage of the single parent headed households are paying more than 30% of income for housing. However,

Irvine's Housing Assistance Plan estimated that 14% of the current housing need for the City is that of single parent headed households. Currently, a large percentage of households in the low income apartments in the City are headed by single parents, primarily females.

Senior Citizens: The 1980 Census shows that Irvine's population includes 3,768 people over age 60, or 6% of the total households. This is a one percent increase from 1976, when 1,718 persons were over age 60. Of this total, 221 persons have incomes below the poverty level, about \$4,400 for a two person elderly household and \$3,500 for a single elderly household. The location and design of housing influences its adequacy for senior citizens. The distance to shopping, services, community facilities and public transit are important considerations. To date, Woodbridge Manor, Harvard Manor and the low income apartments with senior units have been located as near as possible to these kinds of service areas.

Conservation of Affordable Housing Stock

The City of Irvine housing stock provides a range of choices for all income groups. Preserving the quality and affordable of the housing stock is vital to continuing to meet housing needs. Due to the relatively young age of Irvine's housing, no rehabilitation programs are required at this time. The implementation programs do describe actions to insure continued housing quality and maintenance.

There is also a need to maintain the affordability of housing, particularly low and moderate cost housing. This is achieved primarily through mechanisms in either the funding programs or the zoning ordinance. The various funding programs used in Irvine to develop low and moderate cost housing, define the term of affordability, thereby preserving affordable housing. The zoning ordinance preserves housing by defining the permitted uses, such as residential, and not allowing a change unless a formal application is submitted and public hearings held.

Sources of Assistance for Housing Activities

In the past, a number of federal and state programs provided funds for housing activities. Appendix B contains a chart describing these funding programs and their use in Irvine. However, the majority of these funding programs have been curtailed by the federal government. This summary shows that the Community Development Block Grant (CDBG) program is the only program for which the City itself can apply, since the others require proposals from developers, individuals, or other agencies.

Irvine's CDBG grant program has a goal of committing the majority of funds towards housing cost reduction activities for low income households. However, due to lack of other federal assistance programs and the high cost of purchasing land and building housing, the resources received from the block grant program alone are not sufficient to meet Irvine's entire housing need. As a result Irvine has undertaken and participated in other funding programs to assist in the production of housing, as noted in the chart. The most noteworthy of these programs is Irvine's multi-family bond program. The proceeds from the sale of \$100 million in bonds will be used to develop rental housing in Irvine. At program completion over 2,200 apartments, including low income units, will have been built in Irvine. It should also be mentioned that Irvine's bond program will result in 30% (or 660) low income units, whereas most bond programs only require developing 20% of the units as low income units.

Constraints on Housing Development

Market Constraints

The City of Irvine occupies a central location both within the Los Angeles - San Diego urban corridor and in Orange County. Regional trends in the cost of land, financing and materials, as well as the relationship between the supply of and demand for housing, have had an impact on Irvine's housing situation. Before discussing these factors, however, it is important to understand the role played by The Irvine Company in the City's development.

The City of Irvine is in a rather unique situation in that almost all of the undeveloped land in its jurisdiction is owned by one corporation, The Irvine Company (TIC). The Irvine Company controls the pace at which their property is developed. The Company does extensive marketing research and adjusts the type and volume of housing available at any given point in time. It is to be expected that the supply will not exceed the demand.

The Irvine Company has been cooperative in trying to find ways to provide lower cost housing in response to the City's inclusionary zoning requirements. They now have experience with submitting proposals for Section 235, Section 8, California Housing Finance Agency funds and mortgage revenue bond programs. They have made sites available to builders for Section 8 and Section 202 projects. The Irvine Company's willingness to use government housing programs is an important asset to the City in trying to meet its housing needs.

Cost of Residential Land in Irvine: The 1983 cost for unimproved residential land in Irvine is estimated to start at \$250,000 per acre. Finished lots vary in cost depending on size, extent of improvements, and length of land ownership. At a low density, the price for a finished lot can start at \$60,000. Higher density developments may result in lower land costs. In Irvine, land represents at least 30% of the final sales price.

Construction Costs: There have been increases in the cost of construction. This includes everything from supplies and materials to labor cost of all employees. The increase in cost over the last five years has been approximately 36%, based on the Orange County Construction cost index. The basic construction costs vary depending on type of structure and adjustment for amenities built into the unit. But, it is unlikely that multi family housing in Orange County could be built for less than \$40 a square foot, taking all construction cost into consideration.

Availability and Cost of Financing: Interest rates have a direct effect on the cost of housing to the consumer. A change in the interest rate from 11% to 14% on an \$125,000 house, assuming a 20% down payment and a 30-year loan, raises the monthly mortgage payment from \$952 to \$1,185, or \$233 more per month. Banks can also affect housing costs through the amount they require for down payment on mortgage loans.

Age of Irvine's Housing Stock: One final market constraint which should be noted pertains to the age distribution of units in Irvine. Except for farm worker housing, all of the units in Irvine are less than 20 years old. It cannot be expected that a city at Irvine's stage of development would provide the same spectrum of housing prices and rents as Santa Ana, Anaheim, Fullerton, or Orange, which have developed over the last 80-90 years. One of the resources available to them in meeting their needs for lower cost units is their older housing stock. In Irvine, however, any attempt to meet the need for lower cost housing must rely on newly constructed units, since there is no existing supply of

older, less expensive units. Only time will remedy this problem. By the turn of the century when Irvine expects to complete its development, the City will have a greater age range in its housing stock, spanning 36 years, and as a result will have a greater range in housing values.

Government Constraints

The California Legislature has delegated to local jurisdictions specific responsibilities and a certain amount of discretionary authority over the development and use of land. Through building codes, development procedures, requirements, and fees, cities and counties influence the location, density, type, number, quality and appearance of housing units in their jurisdiction. These actions, in turn, affect the cost and availability of housing not only within their borders but in the region as a whole. This section reviews Irvine's existing general plan and its development process to ascertain its impact on the City's ability to respond to its housing needs. Attention is also given to actions by other local, state, and federal government agencies which effect this endeavor.

Irvine's general plan: It is through the general plan that local jurisdictions attempt to resolve competing priorities and concerns. It should be noted that, while it is important, housing is only one of a number of issues which municipalities must address. Irvine's general plan, especially its land use plan, establishes the framework for development in the City. It provides the context in which Irvine is addressing its housing needs. The residential phasing plan shows sufficient land in-phase for development and has the appropriate zoning to allow construction. In terms of volume, density, and rate of production, then Irvine's general plan is not viewed as a constraint to the adequate provision of housing.

Development Process: Irvine's general plan establishes the maximum number of units which can be built in the City. It states the City's potential capacity for housing. In order to build these units, developers must obtain a series of approvals. The purpose of which is to assure that certain standards are met. Builders often complain that government red tape and delays are one reason for the current high cost of housing. However, certain steps in the development process are required by state rather than local law. These requirements are outside local control. Each of them involves a certain cost to developers. This cost is reflected in higher housing prices and rents for the consumer.

Fees: Irvine has an established policy that fees charged for processing development proposals will cover all costs involved. Developers are required to submit a deposit with their request. The size of the deposit varies with the nature of the request and in some cases the size of the project. The City then charges for staff time spent in reviewing these requests on a per hour basis against the deposits.

Cost of Public Improvements: In the past, many communities have approved bond issues to pay for the construction of capital improvements required by new residential development. The recent trend has been to require each development to pay its own way rather than have the existing residents pay the cost through local taxes. The entire cost is carried by the developer who passes it on to the eventual buyers or tenants. Irvine has reduced the cost of on- and off-site improvements for developers who provide lower cost units using Community Development Block Grant funds. The bulk of these annual funds have been placed in the City's housing cost reduction program.

Building Codes and Design Requirements: Building construction standards in Irvine are based upon the 1979 Uniform Building code. This Code is updated on a regular basis. In Irvine only the requirement to fireproof wood shake roofs design standard exceeds the building codes standards necessary to protect the health, safety, and welfare of the residents.

Actions of Other Government Agencies: In many instances, decisions by other cities, counties, and state agencies have restricted the regional supply of land available for development. These actions increase the pressure on land prices and ultimately sales prices and rents.

Trends

Since 1975, the demand for housing in southern California has been unprecedented. Increasing job opportunities, an agreeable climate and lifestyle, proximity to the coastline combined with the recent harsh winters in the eastern and midwestern United States have prompted a high rate of migration to this area.

Demographic trends have also contributed to a high demand for housing. The coming of age of the post-war population boom has created a peak in the need for additional units. Greater frequency of divorce and of singles living on their own as well as smaller family sizes has decreased the average household size. As a result, more units are needed to house a given population now in comparison to the past. The changing demographics of the area combined with the high housing costs have resulted in a demand for smaller multi-family attached housing units. By the turn of the century when Irvine expects to complete its development, the City will have a greater age range in its housing stock, spanning 36 years, and as a result will have a greater range in housing value and condition.

Increasing employment levels in Irvine will result in an increased need for low and moderate cost housing. The development of housing to meet Irvine's special housing needs groups has always required additional housing assistance. Since Irvine has been allocated large amounts of assistance for new construction of subsidized units in the past, Irvine may receive lower allocations in the future. The decrease in federal funding programs in recent years has resulted in cities developing alternative funding sources to promote the development of affordable housing. The funds available from revenue bond programs has accelerated the rate of development of affordable housing.

Identification of Issues

1. How can Irvine address the need for low and moderate cost housing which results from the high concentrations of employment in the area?
2. Given the high cost of housing development, how can the production of affordable housing be made more feasible?
3. The decrease in federal assistance programs for construction of housing makes the development of affordable housing more difficult. What other funding sources and programs can be used to develop affordable housing?
4. Given the relatively young age of Irvine's housing, there is no current need for rehabilitation or demolition of existing housing stock. What kinds of programs can Irvine implement to insure continued housing quality and maintenance?

Response to Issues

To address the identified issues, the City has developed objectives and implementing actions, including programs which sets numerical goals for the development of low and moderate cost housing. Irvine will continue to remain committed to providing the maximum amount of low and moderate cost housing as its housing stock expands. Irvine's ability to meet this commitment is dependent on the adopted land use plan, housing market conditions, environmental constraints and availability of resources. The schedule of actions includes programs already in progress and new programs the City intends to undertake to implement the goals, objectives and implementing actions of the housing program.

GOAL C

HOUSING ELEMENT

Provide for decent housing in a satisfying environment for all economic segments of the community.

To achieve this goal, the City of Irvine has adopted the following objectives and implementing actions:

OBJECTIVE C-1

Insure open housing practices.

Implementing Actions:

- a. Continue providing a fair housing program designed to ensure open housing practices for all residents of the City.

Result: The provision of fair housing counseling services and other activities designed to further the fair housing objectives of Title VIII of the Civil Rights Act of 1968. A fair housing program should further the housing objective of promoting greater choice of housing opportunities and avoiding undue concentrations of assisted persons in areas containing a high proportion of lower income persons. This program is currently administered by contract with the Orange County Fair Housing Council.

Cost/Source of Financing: The annual cost to provide a fair housing program is an eligible Community Development Block Grant program administration expenditure.

Responsible Agency: Community Development Department

Schedule: Ongoing

OBJECTIVE C-2

Minimize sale or rental price of housing without sacrifice to quality construction or maintenance.

Implementing Actions:

- a. Review the City's processing system and development standards and consider changes which simplify these requirements and therefore reduce costs of development in Irvine.

Result: This review was conducted in 1983 and resulted in revising the Irvine zoning ordinance and streamlining the processing procedures.

Cost/Source of Financing: This analysis involved expenses from staff salaries. Expenses were paid from the general fund revenue.

Responsible Agencies: Community Development Department

Schedule: Complete

OBJECTIVE C-3

Utilize design and siting criteria in the evaluation of residential projects and consider future means to insure the maintenance of housing and neighborhood quality while taking into consideration ways to lower housing costs.

Implementing Actions:

- a. Continue to utilize the Uniform Building Code (UBC) as the basis for the standard of construction permitted in residential developments in Irvine.

Result: Residential construction will be of sufficient quality to insure adequate housing for Irvine's residents.

Cost/Sources of Financing: The cost of using the UBC includes the salaries of Irvine's plan checkers and inspectors, as well as certain administrative costs. This cost is being paid from general fund revenue, in particular from the fees paid by developers for these services.

Responsible Agencies: Community Development Department
 Public Works Department

Schedule: Ongoing

- b. Ensure adequate common area maintenance in neighborhoods which have property held in common through the use of homeowners and/or community associations or the formation of maintenance districts.

Result: One of the distinctive features of Irvine's neighborhoods is that they often include common open space and recreational facilities. Through this program, neighborhood quality will be maintained over time.

Cost/Sources of Financing: Developer fees have covered the initial costs to setup homeowners and/or community associations. All continuing fees are paid by monthly assessment to homeowners to their associations. In areas without associations the City has developed maintenance districts to maintain common areas. The setup costs were paid from general fund revenue with all future costs paid by homeowner assessments.

Responsible Agencies: Community Development Department

Schedule: Ongoing

- c. Analyze all residential developments using zoning compliance review, to insure that development quality is maintained.

Result: This procedure provides an opportunity to review the arrangement of structures on a site, parking and access, landscaping, signs, and building design. It enables the City to enforce conditions placed on tentative tract maps which concern such factors as noise attenuation. Zoning compliance review insures that development quality is maintained.

Cost/Sources of Financing: The cost of reviewing residential developments for zoning compliance includes the salaries of the planners in current planning, administrative costs, enforcement, and secretarial services. This cost is paid through the fees collected from developers.

Responsible Agencies: Community Development Department

Schedule: Ongoing

- d. Utilize uniform criteria to identify potential sites for low and moderate cost housing and to evaluate developers' proposals to construct such units. These criteria shall include the following factors:

- Existing and/or proposed transit routes
- Availability of public services, such as police and fire
- Proximity to recreational facilities, primarily parks
- Distance to shopping areas
- Distance to employment opportunities
- School capacity

Consideration shall also be given to the following site characteristics:

- Severity of topography; amount of grading required
- Availability of utilities and access
- Phasing
- Existing zoning
- Adjacent land uses; stage of development

Result: Using these criteria will insure that sites selected for low and moderate cost housing are suitable and compatible with adjacent development.

Cost/Sources of Financing: The criteria have already been identified. Staff in the Community Department apply these criteria in the course of processing developments. As such, the cost of implementing this action is minimal.

Responsible Agencies: Community Development Department

Schedule: Ongoing

- e. Analyze the opportunities for energy conservation policies in areas not yet zoned for residential development including a cost/benefit analysis to determine the life cycle cost and pay back period of a residential energy conservation program in the context of the energy element of the general plan.

Result: The City will develop a program of opportunities for energy conservation for future residential development in Irvine.

Cost/Sources of Financing: This research and policy development is being done as part of General Plan Amendment 9 (energy element). Staff time is paid from general fund revenue.

Responsible Agencies:

Community Development Department
Planning Commission
City Council

Schedule:

Ongoing - energy element expected to be adopted by City Council in 1984.

OBJECTIVE C-4

Encourage a housing development program which provides variety and choice in residential areas and meets the needs of Irvine's current and future residents.

Implementing Actions:

- a. Encourage the development of rental housing as affordable housing when special financing programs are available.

Result: Staff will monitor the availability of financing programs which could result in an increase in the development of rental housing in Irvine. One such program which the City has already implemented is the multi-family bond program (see Action C-6-c).

Cost/Sources of Financing: The cost of staff salaries, would be paid from the financing program when eligible, otherwise from general fund revenue.

Responsible Agencies: Community Development Department
City Council

Schedule: Ongoing

- b. Develop criteria for the review and approval of requests to convert apartments into condominiums which take into consideration:

- The impact of the conversion on the City's supply of apartments and rental vacancy rate;
- The effect on the City's supply of low and moderate cost housing;
- The length of notice given to tenants and the alternatives available to them; and
- The design and condition of the units.

Result: The City will assess the impact on conversions on its housing stock and establish City policy regarding conversions through an ordinance. Uniform criteria will be prepared so that landlords and developers are aware of the rules pertaining to conversions prior to submitting requests.

Cost/Sources of Financing: The Community Development Department staff will be responsible for developing the criteria; the City Council will establish the final policy. All costs would be paid from the general fund revenue. Enforcement would be through the normal subdivision process, funded by developer fees.

Responsible Agencies: Community Development Department
City Council

Schedule: September, 1986 - February, 1987

- c. Encourage the use of innovative building techniques to increase the range of housing opportunities available in Irvine (e.g., use of prefabricated units).

Result: Further research is needed in new building techniques which are available and which may be appropriate for use in Irvine. The research would be done by staff from the Community Development Department. Staff would report to the City Council on their findings and give recommendations as to changes needed in ordinances and development standards to allow use of innovative building methods.

Cost/Sources of Financing: The cost for staff time would be paid from the general fund revenue:

Responsible Agencies: Community Development Department
Public Works Department

Schedule: June, 1985 - June, 1986

- d. Encourage congregate housing through appropriate incentives.

Result: Congregate housing has separate living quarters without kitchens for each household and common cooking and dining facilities. This arrangement lowers the individual unit costs. It offers one way to provide affordable housing and is suited to the living situation of certain groups. Incentives would have to be reviewed by the Community Development staff and approved by the City Council.

Cost/Sources of Financing: Community Development staff salaries and services would be paid from general revenue.

Responsible Agencies: Community Development Department

Schedule: Guidelines for congregate housing have been developed by staff. Any developer requested incentives beyond those provided for lower income residential developments would be approved by City Council.

- e. Consider instituting a landbanking program to acquire suitable sites for low and moderate cost housing.

Result: The City would assist in the provision of lower cost housing by acquiring sites. The City could offer this land to developers at a reduced rate. The amount of land which could be purchased would depend on the City's financial resources.

Cost/Sources of Financing: The analysis of this program will be prepared by the Community Development staff and paid for by the Community Development Block Grant as an administration expenditure.

Responsible Agencies: Community Development Department
City Council

Schedule: April, 1985 - December, 1985

- f. Establish a temporary housing program to address the need of homeless families.

Result: The City in conjunction with various community organizations will develop a program to provide temporary housing in Irvine for families in need. Short term objective will provide apartments and mobile homes for homeless families. Long term objective is to locate a permanent site for the mobile homes and to establish a non-profit organization to operate the program.

Cost/Sources of Financing: The staff time and costs to operate the program will be funded through Irvine's Community Development Block Grant Jobs Bill program. Other community-wide funding sources will also be developed.

Responsible Agencies: Community Development Department
 City Council
 Irvine Project Advisory Committee

Schedule: Ongoing

OBJECTIVE C-5

Continue the City's affordable housing program which requires provision of lower cost units based on the amount of medium-high and high density land shown on the City's land use plan.

Implementing Actions:

- a. Establish requirements for the provision of low and/or moderate cost units in residential areas through the zoning process. The requirement should be based on a policy that one-third of the medium high and one-third of the high density units shown on the City's land use plan should be affordable to lower income households. In establishing the zoning requirement, the following factors shall be taken into consideration:
 - Available data on the extent of housing needs
 - Range of densities allowed under the proposed zoning
 - Environmental constraints
 - Impact on roads, utilities, and services
 - Economic feasibility
 - Availability of subsidies
 - Availability of housing sponsors

If City Council finds that these factors would constrain the potential for affordable housing in a given area, a requirement, lower than this policy may be established. However, regardless of the constraints which may exist in a particular village, it is the City's goal that all residential zoning shall include a requirement that 10% of the residential units in each village be affordable to lower income families.

The zoning requirement will also specify what proportion of the units will be affordable to low and to moderate income families. If subsidies for low income are not available, any requirement for low cost units must be met with an equal number of moderate cost units.

Result: The City will have a consistent guideline for defining the proportion of higher density which should be affordable. The densities shown for future residential areas in Irvine's land use plan could result in as many as 12,475 medium high and 2,880 high density units. If, after these areas are zoned and developed, this total is achieved, the City's goal for provision of affordable housing could result in approximately 5,120 additional lower cost units.

Since 1974, the City Council has included requirements for low and/or moderate cost units in all residential zoning. As of this date, seven areas have inclusionary requirements. Irvine's existing inclusionary requirements will result in the construction of 560 low and 2,713 moderate cost units.

INCLUSIONARY REQUIREMENTS - 1980

PLANNED COMMUNITY	TOTAL UNITS IN PC	INCLUSIONARY REQUIREMENTS			
		% LOW	# LOW	% MOD	# MOD
Home Improvement Center	1,225	5%	60	21%	260
Jeffrey	793			10%	79
Northwood	6,807			10%	680
Orchard Park	350			10%	35
Park Place	1,795			10%	180
University Town Center	5,000	10%	500	10%	500
Woodbridge	9,500			10%	920
Douglas Plaza	320			15%	48
			<u>560</u>		<u>2,713</u>
		TOTAL:			<u><u>3,273</u></u>

Cost/Sources of Financing: The cost of preparing the implementation plan would be paid by the developer. Cost associated with its review and enforcement would be paid out of the general fund revenue.

Responsible Agency: Community Development Department

Schedule: Ongoing

- b. Require the preparation of a map, prior to acceptance of any tentative tract maps in residential areas which have a requirement to provide lower cost units, which indicates the location and distribution of the required lower cost units.
- c. Require the distribution of lower cost housing sites in the preparation of this map, to prevent undue concentration of lower cost housing in any one location.
- d. Require the landowner(s) of any one of the parcels shown on the map as a site for lower cost housing shall inform any potential purchaser/developer that this site is to be used to fulfill the City's inclusionary requirements.
- e. Permit modification of the map as long as:
 - The modification does not jeopardize fulfillment of any inclusionary requirement assigned to the area covered by the map and
 - The landowner making the modification submits a revised copy of the map to the City. If as a result of this modification, a site which was designated for lower cost housing is no longer designated for this purpose, the site may be sold without restriction.

Result: The City will have a systematic way for distributing inclusionary requirements and a means of enforcement. The preparation of an implementation plan and the disclosure requirements will prevent the City's intent from being undermined over time.

Cost/Sources of Financing: The cost to the City of placing the requirements in the appropriate zoning ordinances is minimal. These requirements are written by the Community Development Department, reviewed by the Planning Commission, and approved by the City Council. Costs beyond normal processing could be incurred if the Planning Commission or City Council required additional information in order to determine what the requirements should be. This cost would be paid through processing fees. It should be noted that developers complying with these requirements may pay a certain cost. This cost would be the difference between what the market would have paid for these units and the selling price imposed by meeting inclusionary requirements.

Responsible Agencies: Community Development Department
Planning Commission
City Council

Schedule: In conjunction with zoning

- f. Offer incentives to developers who are willing to provide units affordable to, and whose first-time occupants, are lower income groups. Any developer who receives approval to use any incentive listed below will be required to implement programs listed under Objective C-7. These incentives shall include the following:
- **Priority Processing:** The City will minimize processing time for residential developments which provide low and/or moderate cost housing.
 - **Density Bonuses:** The City will permit developments which provide low and/or moderate cost units to be built at a higher density than is indicated for the site in the general plan. However, the overall number of units built in the village in which the site is located cannot exceed the number permitted in the General Plan.
 - **Reduction of Fees:** The City will consider reducing or waiving processing fees for developments which provide low and/or moderate cost units.
 - **Parking Modifications:** As defined in the City Parking Ordinance developments which provide low and/or moderate cost units are permitted to use reduced parking standards defined in the parking ordinance.
 - **Park Modifications:** The developers of new units affordable to low and/or moderate income households may be allowed to reduce the dedication standard as allowed in the Park and Recreation Element.

Result: Processing and development costs will be reduced so construction of low and moderate cost units is more feasible.

Cost/Sources of Financing: The only incentive which will involve a direct cost to the City is reducing or waiving fees. Indirect costs may occur through more intensive use of public parks, streets for parking, and loss of park land due to reduced dedication requirements. Requests for incentives would be considered as part of development review process.

Responsible Agencies:

Community Development Department
Planning Commission
Community Services Commission

Schedule: Ongoing

OBJECTIVE C-6

Utilize resources and programs available to the City through federal, state or local housing programs which would assist the City in implementation of its housing program.

Implementing Actions:

- a. Participate in the Federal Housing and Community Development Block Grant (CDBG) program.

Result: The CDBG program provides funds which can be used to lower the cost of new construction units through acquiring land, paying for off-site and on-site improvements. These funds can also be used to finance non-profit development corporations. Participating in this program enables Irvine to obtain federal resources for local housing activities and provides a means for implementing its overall housing strategy.

Cost/Sources of Financing: Up to 20 percent of Irvine's CDBG grant can be used to pay the administrative and planning costs of the program. These costs include staff salaries; preparation of applications, performance reports, and necessary contracts implementing specific projects.

Responsible Agencies: Community Development Department
 Administrative Services
 City Council

Schedule: Ongoing

- b. Encourage developers to construct new, affordable units in Irvine through the use of various federal, state and local funding programs for which Irvine can qualify.

Result: Irvine has participated in federal, state and local housing programs and approved projects using these funding sources. Furthermore, the City has allocated Community Development Block Grant funds to assist some projects, and has offered incentives such as priority processing. These actions indicate the City's willingness to continue this kind of support. Further encouragement could be provided through holding seminars on these programs for local developers who have not used them, and offering technical assistance in preparing applications.

Cost/Sources of Financing: Current efforts to assist developers who use Federal and State housing programs occur as part of normal development processing. As such, they do not involve additional costs. Increasing these efforts as outlined above would require greater staff expertise. It may require adding positions, depending on the level of service offered. This cost could be paid from processing fees.

Responsible Agencies: Community Development Department

Schedule: Ongoing

- c. Use mortgage revenue bond programs as a funding source to develop affordable housing.

Result: Irvine has developed a multi-family mortgage revenue bond program for the development of 2,200 rental units in the City. In addition, developers have participated in Orange County's bond program which will result in the development of over 2,000 single and multi-family affordable dwelling units.

Cost/Sources of Financing: The staff costs to develop and administer the bond program are paid out of bond proceeds. The minor costs to participate in the county program are paid out of general fund revenue.

Responsible Agencies: Community Development Department
Administrative Services Department
City Council
Orange County, County Administrator Office

Schedule: Ongoing

- d. Maintain a membership in the Orange County Housing Authority.

Result: The City will have a voice in the policies and programs undertaken by this agency. The Housing Authority provides funding for housing activities through the Section 8 Rental Assistance Program. This agency is also considering the sale of revenue bonds to provide construction and long-term mortgage financing for the construction of lower cost housing.

Cost/Source of Financing: The Housing Authority has no membership fee. The only cost involved is staff time for inter-agency coordination and participation in advisory committee meetings. Staff has been assigned from the Community Development Department for this purpose and their salary is paid from general fund revenue.

Responsible Agencies: City Council
Community Development Department

Schedule: Ongoing

- e. Participate in the Section 8 Existing Rental Assistance Program.

Result: Rental assistance payments will be available for use by tenants living in Irvine. This program is administered for Irvine by the Orange County Housing Authority (OCHA). Community Development Department staff monitor the effectiveness of the program. By coordinating with OCHA, the City Council has indicated their willingness to participate in this program.

Cost/Sources of Financing: All of the costs associated with this program are paid by the Federal Government.

Responsible Agencies: City Council
Orange County Housing Authority
Community Development Department

Schedule: Ongoing

- f. Support the efforts of non-profit organizations and citizen groups to facilitate the provision of low and moderate cost housing.

Result: Non-profit organizations are eligible to apply for federal and state housing funds and to sponsor proposals to provide lower cost housing. They may also provide services related to the City's housing program such as screening buyers who are purchasing lower cost units. Encouragement of such activities will expand the scope of Irvine's housing program beyond what is possible with City staff alone.

Cost/Sources of Financing: Assistance could be in the form of loans, grants, or technical assistance from staff. The cost would be paid from general fund revenue or in part from the City's CDBG funds. The City Council will review requests for assistance and determine which are appropriate.

Schedule: Ongoing

OBJECTIVE C-7

Insure that households who benefit from Irvine's efforts to provide low and moderate cost units are in the appropriate income groups and meet program requirements.

Implementing Actions:

- a. Require that developers who must fulfill inclusionary requirements contract either with the City or with an organization approved by the City to screen potential tenants or buyers. Developers must submit a notarized letter stating which organization they intend to use and a letter confirming the arrangements from the organization. This screening process shall insure that the initial tenants or buyers of inclusionary units are within the income group specified by the requirement.

Result: This requirement will insure that the intent of the City's inclusionary program is fulfilled.

Cost/Source of Financing: The cost of the screening process shall be paid by the developer.

Responsible Agencies: Community Development Department
 Developers
 Designated Screening Agencies

Schedule: Ongoing

- b. Utilize the following list of priorities established by City Council resolution in distributing low and moderate cost units required by the City. These priorities are:

- First Priority: households with a member who is employed in Irvine.
- Second Priority: households from the general public, including those households who are unsuccessful in the group having first priority.

Eligibility for first priority shall be determined by the City of Irvine or its approved screening agency on the basis of permanent full-time employment in Irvine City limits. Regardless of these priorities, households must first establish their eligibility for Irvine's inclusionary program based on income.

Result: This requirement will insure that Irvine addresses the housing need of persons working within the City, in addition to the general public.

Cost/Sources of Financing: Costs paid through fee levied on developer providing units or on the household itself.

Responsible Agencies: City Council
 Developers

Schedule: Ongoing

- c. Require buyers purchasing low or moderate cost units occupy these units for at least one year. This restriction will be implemented by the developer. If buyers must move because of impelling circumstances (e.g., job transfer), they may rent out their units. The amount of rent, however, may not exceed the limit defined by the City as affordable for that income group for which the units were originally built. Requests to rent out units will be reviewed and approved by the Director of Community Development.

Result: The restrictions outlined above are designed to discourage buyers who are looking for windfall profits from an immediate resale.

Cost/Sources of Financing: Most of the cost for implementing this program would be paid by developers. Staff time needed to review requests to rent out units would be minimal and would be paid from general fund revenue.

Responsible Agency: Developers
 Director of Community Development

Schedule: Ongoing

Standards

All residential zoning shall require at least 10% of the residential units be affordable to lower income families.

Related Goals and Objectives

Land Use Element - A-1, A-2, A-3, A-4
Urban Design Element - B-2, B-4
Circulation Element - D-2, D-3, D-6, D-7
Noise Element - F-1, F-2, F-3
Safety Element - J-1, J-2
Parks and Recreation Element - L-1, L-3, L-4
Seismic Element - M-1, M-2

Compliance Regulations

Housing Element Guidelines
Uniform Building Code
City of Irvine Zoning Ordinance
City of Irvine Subdivision Ordinance
City Council Resolution 81-51: Pricing of Low and Moderate Cost Units
City Council Resolution 1238: Priority for the Distribution of Low and Moderate Cost Units



CIRCULATION ELEMENT

The circulation element is a required element of local general plans as stated in Section 65302(g) of California Planning Law. This element describes the nature and extent of the existing circulation network, and identifies trends, issues, and public policies relating to the development of a balanced, multi-modal circulation system for the City.

Description of Circulation

The circulation system is one of the most important of all urban systems in the planning area. A well planned circulation system is an important ingredient in a healthy economic environment. Economic activities typically require the circulation of materials, products, and employees. Circulation systems can be used to influence the nature and extent, as well as the pace of urban development. The viability of each land use is dependent upon a certain level of accessibility. The circulation system can be designed to respond to conservation, noise and air pollution, and wildlife preservation objectives. The circulation system can also be planned to satisfy social and urban design objectives. The physical aspects of the circulation system, including the roadways, can be used to foster communications among villages. Also, they can be planned to reinforce the boundaries of areas and to give a sense of orientation while traveling.

In the planning area, four different types of systems compose the entire circulation system, as follows:

1. Air System

The air system is comprised of general aviation and commercial flights from John Wayne Airport, military operations from Marine Corps Air Station (MCAS) El Toro, and helicopter flights from MCAS Tustin. MCAS El Toro is the only facility actually located in the planning area.

2. Road System

The road system provides for nearly all passenger trips through and within the planning area. While the primary road user is the automobile; bicycles, pedestrians, and buses also use the road system. The planning area is served by a hierarchy of roads, as shown in Figure D-1, and defined in the Standards section of this element.

3. Public Transit System

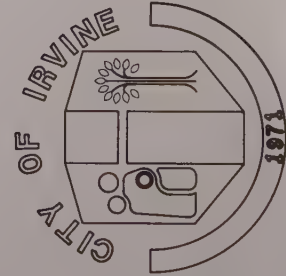
Public transit has not yet played a significant role in Irvine's circulation system. The traveling public prefers the flexibility and convenience of the automobile. Irvine, however, should plan for the future, when ridership attitudes may change because of such things as increased energy prices and increased street congestion. The proposed public transit network is composed of the following hierarchical corridors, as depicted in Figure D-2.



ROADWAY SYSTEM

FUNCTIONAL CLASSIFICATION

- FREEWAY
- THRUWAY
- PARKWAY
- COLLECTOR
- TRANSPORTATION CORRIDOR



SPHERE OF INFLUENCE CITY BOUNDARY

FIG. D-1

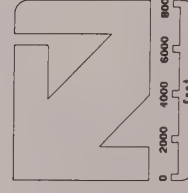
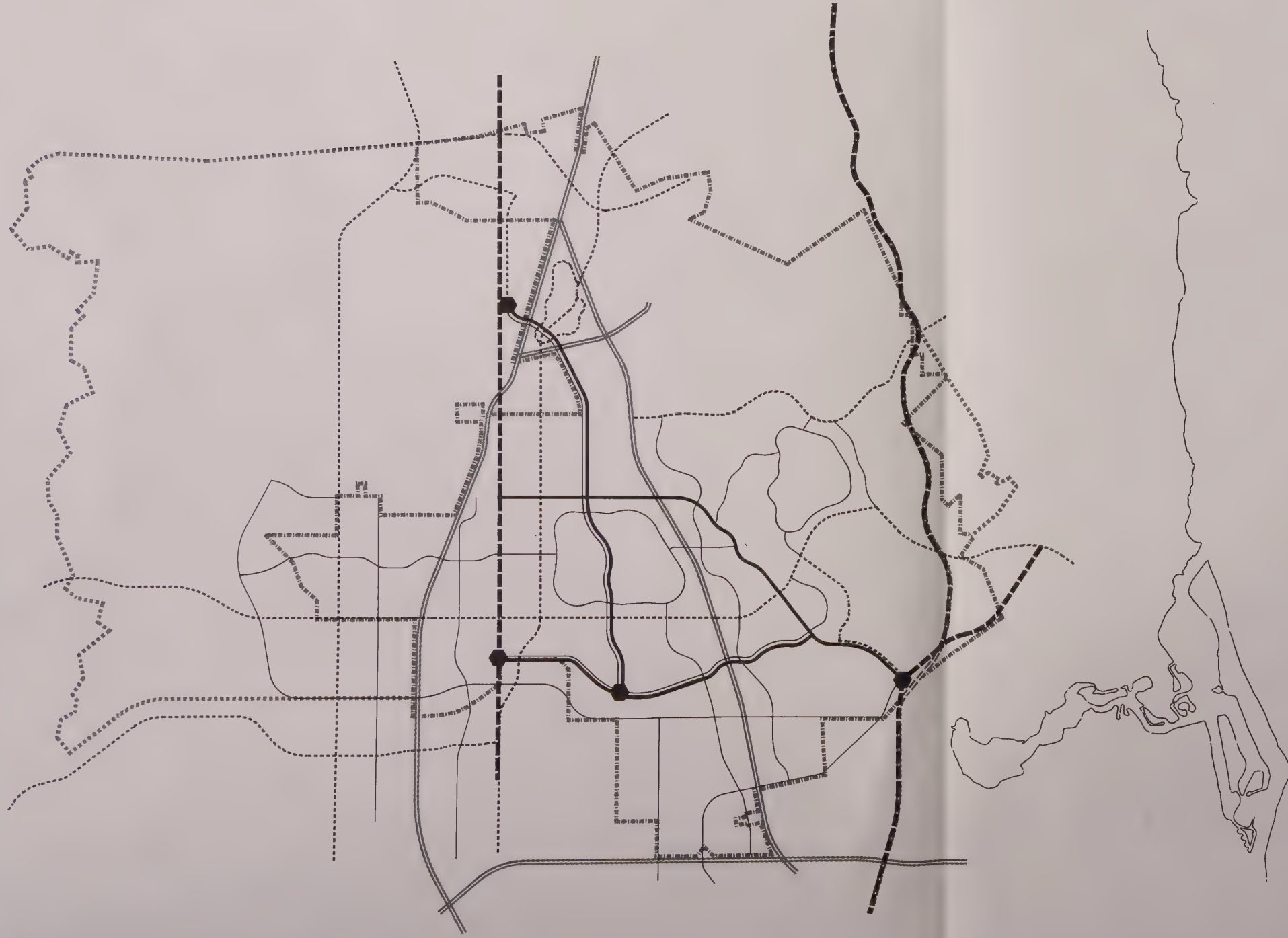


FIG. D-1



PUBLIC TRANSIT SYSTEM

- REGIONAL TRANSIT.
- INTRA-CITY ADVANCED TRANSIT CORRIDOR
- INTER-CITY PUBLIC TRANSIT CORRIDOR
- INTRA-CITY PUBLIC TRANSIT CORRIDOR (LOCAL/FEEDER)
- TRANSIT STOP



SPHERE OF INFLUENCE CITY BOUNDARY

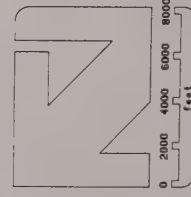


FIG. D-2

FIG. D-2

- Regional Transit Corridors - These transit corridors are to be implemented by the Orange County Transit District or other regional transit agencies, and are envisioned to be serviced by an at-grade, line-haul advanced transit facility.
- Inter-City Public Transit Corridors - These are secondary transit corridors which provide connections between Irvine and other destinations, serving both inter- and intra-city traffic. The corridors are envisioned to be served predominately by rubber-tired vehicles (bus, tram) on the road system, possibly on an exclusive lane.
- Intra-City Public Transit Corridors - These are local public transit corridors, serving major villages and districts, providing a feeder system to the inter-city and regional transit systems. The systems envisioned to serve the corridors are low volume transit facilities (i.e., bus, tram, people mover, dial-a-ride) operating within the available public right-of-way.
- Intra-City Advanced Transit Corridor - These are corridors which connect to the regional transit system to serve both inter- and intra- city travel needs. The corridors entail the maximum usage of overlapping or multi-purpose right-of-ways, including primarily the San Diego Creek and Peter's Canyon Wash drainage right-of-ways, as well as utility easements, village edge buffers, arterial parkways, safety lanes, or similar open space areas, as appropriate to preserve the opportunity for implementing a future advanced transit system. This system is envisioned to be served by an elevated, grade-separated transit facility.

4. Trail System

The trail system is made up of bicycling, hiking, and equestrian trail corridors. These systems provide recreational and commuter opportunities. The bicycle trail corridors, as depicted in Figure D-3, provide access to parks, shopping centers, employment areas, and public facilities, and include both off-street (Class I) and on-street (Class II and III) trails. The hiking and equestrian corridors, as depicted in Figure D-4, provide recreational opportunities through major conservation and open space areas.

Existing Conditions

1. Air System

Most of the air transportation needs of Orange County are met by John Wayne Airport. The flight schedules of local airlines are regulated by the County to minimize air and noise pollution impacts.

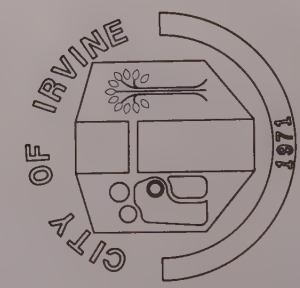
2. Road System

The existing circulation system is dominated by a well developed road network within built-out areas. Travel by automobile accounts for nearly all of the short- and long-range ground passenger trips. Most existing developments in Irvine are primarily based upon the use of the automobile to satisfy travel requirements and provide limited or no major alternatives to the automobile in the design of their circulation system. The economic characteristics of a large segment of Irvine's population allows for complete reliance on the automobile. At present, all highways in the planning area cross Santa Fe Railroad at grade level, causing some circulation conflicts.



BIKE TRAIL CORRIDOR SYSTEM

..... BIKE TRAIL CORRIDOR
(Corridors are illustrative only and
not indicative of precise alignments)



..... SPHERE OF INFLUENCE CITY BOUNDARY

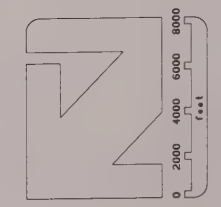


FIG. D-3

FIG. D-3



HIKING & EQUESTRIAN CORRIDOR SYSTEM

..... HIKING & EQUESTRIAN CORRIDOR
(Corridors are illustrative only and
not indicative of precise alignments)

SPHERE OF INFLUENCE CITY BOUNDARY

FIG. D-4

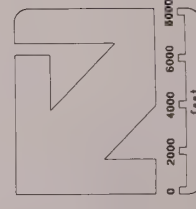
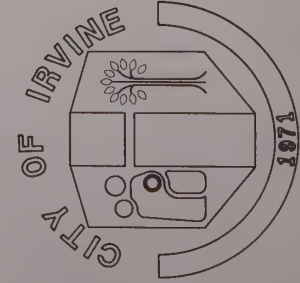


FIG. D-4



HIKING & EQUESTRIAN CORRIDOR SYSTEM

..... HIKING & EQUESTRIAN CORRIDOR
(Corridors are illustrative only and
not indicative of precise alignments)

SPHERE OF INFLUENCE



CITY BOUNDARY

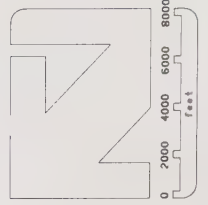


FIG. D-4

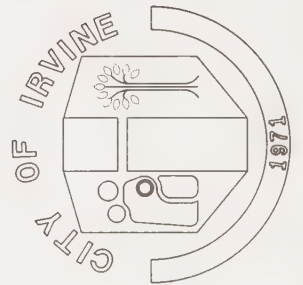


FIG. D-4



HIKING & EQUESTRIAN CORRIDOR SYSTEM

..... HIKING & EQUESTRIAN CORRIDOR
(Corridors are illustrative only and
not indicative of precise alignments)

SPHERE OF INFLUENCE CITY BOUNDARY

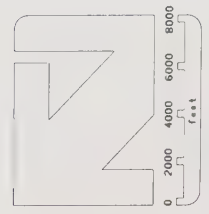
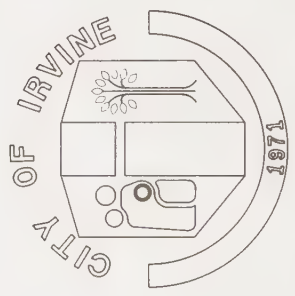


FIG. D-4

FIG. D-4

3. Public Transit System

At present, practically all transit operations are designed to handle inter-city travel requirements. Inter-city bus systems operate primarily along the Santa Ana and San Diego Freeways, with most having no stops in the planning area. Orange County Transit District (OCTD) provides bus service to major destinations within the planning area. Existing public transit systems in Orange County have not yet developed sufficient patronage to operate as economically viable systems.

Amtrak operates on the Santa Fe Railroad right-of-way through the planning area. Existing stations are located in San Juan Capistrano and Santa Ana. Due to the absence of station facilities in the planning area, Amtrak makes no real contribution towards meeting the City's public transit needs at this time.

4. Trail System

Bicycle trails have been developed along the majority of the designated corridors, connecting the developed areas of the City. A master plan for the hiking and equestrian trails is being developed for adoption by the City. Currently, no hiking and equestrian trails have been developed.

Trends

1. Air System

Increasing commercial passenger demand in Orange County will probably not be totally accommodated at John Wayne Airport due to numerous environmental and political constraints. The military has demonstrated strong opposition to any commercial use of their facilities or any possible relocation of their facilities. The military does not foresee any change in their operations in the near future. Therefore, it can be assumed that the existing air system will remain at a status quo.

2. Road System

Due to the large capital outlay already spent and future outlay anticipated, it can be assumed that the automobile will continue to be a dominant transportation mode. As development continues and vehicular traffic volumes increase, railroad grade separations will be necessary to insure a well flowing circulation system. Land development will continue to be analysed to insure that the trips generated do not exceed the planned roadway capacities.

3. Public Transit System

Opportunities still exist within the planning area for multi-modal transportation planning. Public transit should become an increasingly viable transportation mode as operating costs for private autos increase, roadway congestion increases, and lack of accessibility to private autos for certain groups (i.e., elderly, handicapped, low income) increases. While public transit may never supplant the automobile as the primary mode of transportation, its implementation and use could help alleviate street congestion, as well as provide a more economical means of transportation.

4. Trail System

It is expected that the bicycle trails will continue to be developed concurrent with adjacent development. The hiking and equestrian trails will also be developed, as the City grows.

Identification of Issues

1. Proper staging of land use development can avoid overtaxing the road system capability locally, but regional development also effects traffic levels in the planning area. How can the City plan for a vehicular circulation system which accommodates both projected local and regional land use and circulation needs?
2. Vehicular circulation systems can have substantial environmental impacts on adjoining land uses. How can the City reduce, eliminate, or mitigate these negative environmental impacts?
3. The City has expended large sums of money in road construction to provide relative flexibility for automobile use. This has encouraged consumer preferences for the automobile, over alternative modes of transportation (bicycles, walking, public transit). How can the City provide more opportunities, thus encourage the use of a more balanced multi-modal circulation system?
4. Public transit should become an increasingly viable mode of transportation. How can the City preserve the opportunity for future advanced rapid transit?
5. There are both positive and negative impacts associated with air facilities. How can the City maximize the positive aspects, while minimizing the negative impacts of the air facilities adjacent to and within the planning area?

Response to Issues

This element is essentially based on a multi-modal transportation system which looks to a lessening of dependency on the automobile in the future. Since the planning area is not anticipated to be developed in a short time, the full implications, performance, and impact of the total multi-modal circulation system cannot be realized in the immediate future. However, actions must be taken now and priorities in system constructions established to ensure proper phasing, sequencing, full utilization, and preservation of future options of each circulation system as the City develops.

The following goal, objectives, and implementing actions have been formulated as a policy response to the circulation issues identified.

GOAL D

CIRCULATION ELEMENT

Provide a balanced transportation system.

To achieve this goal, the City of Irvine has adopted the following objectives and implementing actions:

OBJECTIVE D-1

Develop an integrated vehicular circulation system to accommodate projected local and regional land use and circulation needs.

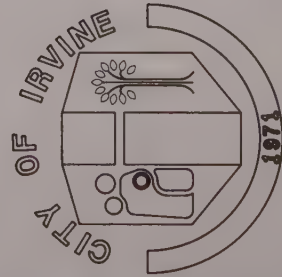
Implementing Actions:

- a. Utilize the City of Irvine land use plan for the purpose of sizing basic circulation systems.
- b. Use the circulation networks illustrated in Figures D-1 and D-5 to guide detailed planning.
- c. Develop on an incremental basis a vehicular circulation system responding to local and regional access requirements.
- d. Evaluate the incremental additions to the system through utilization of the TAP Model (Traffic Analysis Program). This model should be modified to evaluate all feasible forms of transportation, including public transit and bikeways.
- e. Cooperate to the fullest extent possible with state, county, and local governments for planning and implementing the circulation element and coordinating efforts to assure orderly development.
- f. Work with the County and The Irvine Company in developing compatible land use and circulation plans for the area northerly of the sphere of influence noting that development in this area can have a significant impact on the City.
- g. Planning and construction of public utilities - state, county, and local - should be coordinated to minimize negative impact on roadways within the City.
- h. Monitor land use and transportation planning in southeast Orange County due to the impact on major transportation facilities in Irvine. There is currently underway a Northeast Orange County Circulation Study which will address to some extent the Newport and Santa Ana Freeway deficiencies. The City shall monitor the study and work with the County in developing mitigation measures.
- i. Support further study of the Foothill Transportation Corridor. The Southeast Orange County Circulation Study identified this corridor (an east/west corridor northerly of Irvine Boulevard) as a mitigation measure to the over-capacity Santa Ana Freeway and other north/south arterial highways.
- j. Actively lobby with appropriate State commissions, committees, and legislators for funding to upgrade the Newport and Santa Ana Freeway to eight lanes.
- k. Support any programs with the objective of increasing the vehicle occupancy rate (the Traffic Analysis Program (TAP) assumes 1.1 persons per vehicle - home to work trip).
- l. Secure public support for the development of a balanced circulation system through well organized public relations program.



ROADWAY SYSTEM
ARTERIAL HIGHWAY DESIGNATIONS

- == FREEWAY
- MAJOR HIGHWAY
- PRIMARY HIGHWAY
- SECONDARY HIGHWAY
- ==== TRANSPORTATION CORRIDOR



SPHERE OF INFLUENCE CITY BOUNDARY

FIG. D-5

FIG. D-5

OBJECTIVE D-2

Develop a vehicular circulation system consistent with high standards of transportation engineering safety and sensitivity to adjoining land uses.

Implementing Actions:

- a. Roadways should be routed in careful relationship to adjoining land uses to minimize noise and visual impacts.
- b. Roadways should follow the natural terrain, particularly in hillside areas.
- c. Design roadways so as to mitigate vehicle noise through use of items such as:
 - Physical barriers, such as berms which would permit residential units to be effectively screened from excessive noise;
 - Trees and other planting materials in densities sufficient to act as noise absorbants, as well as for bringing visual relief; and
 - Semi-depressed roadways, in conjunction with berms and belts of trees, where feasible.
- d. The City should maintain a flexibility in relation to its noise performance standards so that building placement, building insulation, and such alteration methods as berms and trees can all be used to achieve a variety of aural and visual solutions.
- e. Discourage through traffic in villages.
- f. Reduce the negative environmental impact of the automobile and indicate in all proposed developments how the impact of the automobile has been minimized.
- g. All open parking areas should be visually broken up by landscaping or other means to avoid visual monopoly.
- h. Parking shall be prohibited on all thruways, parkways, and community collectors to increase the traffic capacity of these arterials.
- i. Minimize the number, properly space, and interconnect traffic signals in order to maximize progression and minimize the acceleration/deceleration that produces significantly higher vehicular emission levels.
- j. Traffic control device systems shall be attractive, simple, uniform, and visible.
- k. Implement where appropriate the Transportation Management Plan developed for Irvine Industrial Complex-East. This plan is designed to reduce peak hour traffic and vehicle miles traveled.
- l. The City shall continue to monitor Irvine Business Complex (IBC) traffic. This is a mutual effort of the affected agencies to develop solutions to the IBC traffic problems.
- m. Consider in the planning and design of highways other circulation networks recommended in this element.

- n. Periodically evaluate the impact of increases in San Diego and Santa Ana Freeway traffic on utilization of parkways in the east-west activity corridor.
- o. Identify the major intersections (those with arterial highways) on Jamboree Boulevard southerly of the San Diego Freeway and on MacArthur Boulevard as those requiring special design treatment to increase their vehicular capacity.
- p. Identify the intersection of Culver Drive and Campus Drive as sensitive to the development of UCI and Town Center Planned Community. Development proposals for these areas shall include special consideration to the impact on and design and operating of the sensitive intersection.
- q. Identify Sand Canyon northerly of the San Diego Freeway as sensitive to the development in adjacent areas with particular emphasis on the area designated "specialty commercial" northerly of the San Diego Freeway and easterly of Sand Canyon Avenue. Development proposals for these areas shall include special consideration to the impact on the sensitive roadway.
- r. Identify Culver Drive northerly of the San Diego Freeway as sensitive to the development in adjacent areas. Development proposals for Village 14 and 15 shall include special consideration to the impact on the sensitive roadway.
- s. Develop regulations limiting the routes, speeds, and operating hours of vehicles generating noise nuisances, such as certain types of trucks and buses.

OBJECTIVE D-3

Establish a pedestrian circulation system to support and encourage walking as a mode of transit.

Implementing Actions:

- a. Villages shall contain an internal system of trails linking schools, shopping centers, and other public facilities with residences.
- b. Convenient and direct pedestrian walkways shall link the City.
- c. Design and locate land uses to encourage access by non-automotive means.
- d. Shopping areas shall be designed for pedestrian access.

OBJECTIVE D-4

Link the City by a system of bicycle lanes and trails and encourage the use of the bicycle as a safe and convenient mode of transportation.

Implementing Actions:

- a. The City shall utilize the bicycle corridors shown in Figure D-3.
- b. Principal trip destinations such as schools, parks, community centers, and shopping centers shall be linked to residential areas.
- c. All bicycle trip destinations, including schools, shopping areas, and transit stops, shall be equipped with bike racks.
- d. Each village within the City shall contain a system of bike trails, both on- and off-street, to meet local demand. The trail system shall meet the demands both of the recreational and experienced cyclist.
- e. The City shall create a system of bicycle lanes within the street right-of-way to meet the needs of both the local and commuter cyclist. The lanes shall be designed for the safety of the cyclist.
- f. Adequate traffic control devices shall be provided for bicycle crossing.
- g. Traffic signal phasing shall be adequate for bicycle turning and straight-through movements.
- h. Off-street bicycle trails should use open space corridors, flood control, and utility easements where possible. Such trails shall minimize automobile cross traffic.
- i. Require provision of village level bikeway systems by developers and their connection with the city-wide bicycle network.
- j. Trails will be continuous through the villages, matching desired trip routes.
- k. The City shall require the applicants of new developments to submit, at the time of tentative tract map submittal or conditional use permit or master plan review, pedestrian, and bicycle circulation plans detailing such access to the subject and adjacent properties in accordance with the circulation, conservation and open space, and urban design element of the general plan.
- l. Include sites which are appropriate for educational or recreational purposes as part of the bikeway system, or included as an integral part of either public or community facilities.
- m. Initiate and monitor bikeway demonstration programs within existing villages and at UCI.
- n. Conduct a comprehensive public information program to increase public awareness of bicycle safety.

OBJECTIVE D-5

Design and develop a trail network and support facilities (i.e., rest stops, staging areas, and centers) to satisfy the needs of equestrians and hikers; and coordinate linkages with other local, regional, state, and national trail systems.

Implementing Actions:

- a. Provide for a trail system that can be monitored and phased to match the needs of the City as it grows.
- b. Locate equestrian and hiking trails in appropriate areas identified as permanent open space, scenic highway corridors, agricultural edges, public utility ROW's and easements, flood control channels, and areas designated for rural and estate density.
- c. Encourage the development of a trail system and support facilities that minimize the potential impacts on existing or planned urban development.
- d. Encourage the development of a trail system that will not create unsafe situations for users or residents of the City.
- e. At the time of precise alignment studies, and in conjunction with the required environmental assessments, City staff shall review trail proposals to determine the likelihood of potential impacts upon existing or planned development. Mitigation measures or alternatives will be implemented where appropriate and feasible.
- f. Motorized vehicles and cycles shall be prohibited from using the trail system.
- g. Encourage the location of equestrian boarding centers to provide easy access to the system.
- h. Equestrian boarding centers shall meet all minimum public health standards for food, shelter, and hygiene.
- i. Support facilities, such as rest stops, stalls, and boarding centers, shall be located away from higher density urban areas.
- j. The Irvine Riding and Hiking Trail Committee shall be established as a ongoing committee which shall monitor the needs and guide development of the equestrian and hiking trail system in keeping with the Master Plan for Riding and Hiking Trails.
- k. The Master Plan for Riding and Hiking Trails shall include a precise plan of equestrian and hiking trails, identifying precise trail alignments, standards, priorities for development, and recommended support facility locations.
- l. Regulatory documents shall be revised to require developer dedication and final improvement of the trail alignments as shown in the Master Plan.
- m. The Master Plan for Riding and Hiking Trails shall depict the exact locations where equestrian/hiking trails and bicycle trails will share a common surface.

- n. In the Master Plan of Riding and Hiking Trails, provide a mechanism whereby City trails can be submitted for inclusion in Orange County's Master Plan of Hiking/Riding Trails.
- o. The Irvine Riding and Hiking Trail Committee shall assist in the monitoring and seeking of funds for trail system development, improvement, and maintenance from all available sources.

OBJECTIVE D-6

Work with Orange County Transit District to implement a public transit system for trips within the City and adjacent areas.

Implementing Actions:

- a. Bus routes should provide a feasible alternative to the automobile and encourage public transit systems to these facilities.
- b. Provide bus service to existing land uses to maximize patronage.
- c. Plan residential, commercial, and industrial areas to enable effective use of public transit.
- d. Emergency parking lanes on arterial highways should be considered potential public transit corridors.
- e. Work with OCTD in pursuing additional transit service to the City as well as other southwest Orange County cities.
- f. Pedestrian access from the interior of villages to public transit stops should be direct and convenient.
- g. Strive for reasonable and practicle means through current technology to find transit solutions which are economically feasible not only in terms of ridership fees but in terms of City support for investigation and promotion.

OBJECTIVE D-7

Preserve the option of future advanced rapid transit capability.

Implementing Actions:

- a. Undertake detailed planning of an advanced transit network (including local and activity center systems) as illustrated in Figure D-2.
- b. The City shall adopt a master plan of potential advanced intra-city transit routes.
- c. Coordinate the development of intra-county and regional transit stops with Irvine's intra-city transit system.
- d. Explore a full range of intra-city transit technologies in a detailed transit study.
- e. Plan commercial, industrial, and residential areas so that the use of transit systems could be implemented if and where deemed viable.
- f. Transit routes may be overlaid on village edges, parkways, safety lanes, flood control channels, and other open space where feasible. Exclusive transit rights-of-way may be required where no such overlay is feasible.
- g. Encourage the short-term use of rights-of-way reserved for the various circulation systems for other uses, such as recreational open space.
- h. The City shall require the applicants of new developments at the time of tentative tract map submittal or site plan review to indicate the precise location of transit routes and to justify transit overlays.
- i. Reserve AT&SF right-of-way for OCTD regional transit corridor.
- j. Encourage the planning of the environments of shopping centers, educational complexes, etc., so that they will progressively reduce the need for automobiles by providing other transportation modes.

OBJECTIVE D-8

Promote improved air transportation for Orange County while minimizing noise and air pollution.

Implementing Actions:

- a. Coordinate public transit and local transit with planning for air transportation.
- b. Support expansion of service at John Wayne Airport as State noise and pollution standards are met and as vehicle traffic problems are reduced.
- c. Recognize the positive economic impacts which John Wayne Airport provides to the City.
- d. Flights at John Wayne Airport shall be limited to short-haul western region trips.
- e. Recognize the positive impacts of general (private) aviation at John Wayne Airport and encourage the provision of additional general (private) aviation within Orange County.
- f. Oppose commercial use of El Toro MCAS and continue liaison with surrounding communities in organizing and supporting opposition to such use.
- g. Urge the Navy Department and the Marine Corps to minimize the noise and pollution impacts of their operation.
- h. Encourage use of Los Angeles and Ontario International Airports for continental and international flights.
- i. Develop, in cooperation with the City of Newport Beach, an activity center transportation system to alleviate the ground access congestion related to John Wayne Airport.
- j. Encourage the development of high speed ground transportation systems to supplement the air system for meeting inter-regional travel needs.

Standards

Road Classifications

Freeway: A high speed divided state highway for through traffic with full control access and grade separations at all intersections. A freeway has emergency parking only and no parallel or perpendicular pedestrian movements.

Thruway: A relatively high speed arterial highway with restricted access supplementing the Freeway System and carrying intermediate range trips to or between major nonresidential land uses. A thruway has emergency parking only, and minimal pedestrian interference with traffic

Parkway: A moderate speed arterial highway abutting and distributing trips to a variety of land uses. This facility primarily serves short-range trips and is a significant environmental element as it borders the activity corridor. A parkway has emergency parking only and will have considerable parallel and perpendicular pedestrian movement.

Community Collector: A medium speed highway abutting similar land uses. The primary function is to collect and distribute trips within a hierarchy of roads and, secondarily, to carry short trips between adjacent neighborhoods. A community collector has emergency parking only and has a significant amount of parallel and perpendicular pedestrian traffic.

Local Street: A low speed, low volume highway primarily for access to residential, business, and other abutting property. A local street may have parking and a significant amount of parallel and perpendicular pedestrian traffic.

Related Objective Numbers

Land Use Element - A-2, A-4
Urban Design Element - B-2
Housing Element - C-3, C-5
Scenic Highways Element - E-1, E-2
Noise Element - F-1
Public Facilities Element - G-1
Safety Element - J-2
Parks and Recreation Element - K-3
Conservation and Open Space Element - L-1, L-2, L-4
Seismic Element - M-2

Compliance Regulations

City of Irvine Capital Improvement Program
(standard plans)
City of Irvine Zoning Ordinance
California Environmental Quality Act and Implementing Procedures
California Subdivision Map Act
City of Irvine Subdivision Ordinance

I-E

SCENIC HIGHWAYS ELEMENT

Increased environmental awareness on the part of the public has led to a concern for developing highways which serve not only transportation needs, but also serve to facilitate the preservation of visually attractive natural and man-made amenities for the enjoyment of both motorists and other users and viewers alike. In response to this growing awareness and concern, a scenic highways element has become a required element of local general plans as stipulated in Section 65302(h) of California Planning and Zoning Law.

Description of Scenic Highways

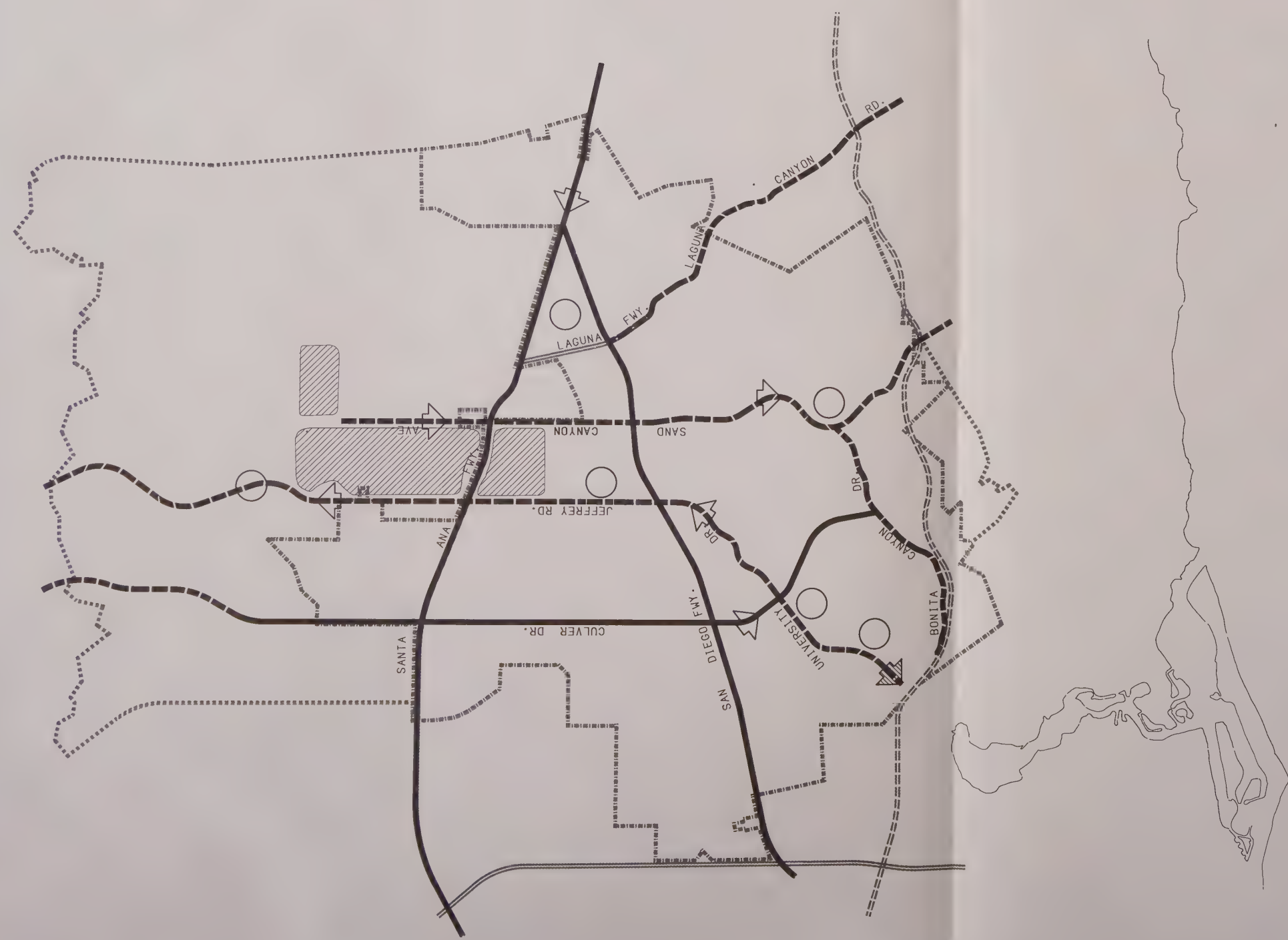
Scenic highways are made up of the road and its right-of-way, and the scenic corridor. The scenic corridor is the visible area outside the highway's right-of-way, generally described as "the view from the road." The boundaries of the scenic corridor vary with the natural characteristics of the landscape as viewed by a motorist. Scenic highways provide recreational value for their visual relief as a result of nature or the designed efforts of man.

The planning area, for the purpose of this element, has two types of scenic highways—rural and urban. Rural scenic highways are routes in which natural scenic resources and aesthetic values may be found. Rural scenic highways traverse areas, such as agricultural or natural areas, which are protected and enhanced. Urban scenic highways are routes that traverse an urban area, with the scenic corridor offering a view of attractive and exciting urban scenes.

Existing Conditions

Prior to the City's incorporation, efforts had been made to designate scenic highways in the planning area. Studies were conducted by the State of California and the County of Orange to identify potential scenic highways. During development of the City's general plan, several roadways were designated and adopted as scenic highways. Figure E-1 depicts the City's scenic highway plan and designates the following roads as scenic highways:

- Culver Drive: A road combining views of rural and urban significance to both City and County residents, including the coastal, inland, and northern canyons and the University of California, Irvine (UCI).
- University Drive and Jeffrey Road: Roads combining views of rural and urban significance to both City and County residents, including Upper Newport Bay, San Joaquin Marsh, University of California, Irvine, Mason Regional Park, Irvine Civic and Cultural Center, the north-south open space spine, and the Irvine agricultural district.
- Sand Canyon Road: A road of primarily rural character providing views of the Pacific Ocean, coastal, inland and northern canyons and the Irvine agricultural district. It also has some significant stands of oak trees adjacent to it in the central flatlands area.
- San Joaquin Hills Road: A road of primarily rural character providing dramatic, canyon-framed views of the Pacific Ocean as well as the urban experience of a major district center.



RECOMMENDED SCENIC HIGHWAYS

- SCENIC HIGHWAYS
 - RURAL OR NATURAL CHARACTER
 - URBAN CHARACTER
- MAJOR VIEW TO WATER BODY
- MAJOR VIEW TO URBAN FOCAL POINT
- URBAN FOCAL POINT
- AGRICULTURE

SPHERE OF INFLUENCE CITY BOUNDARY

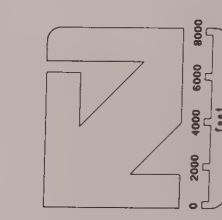
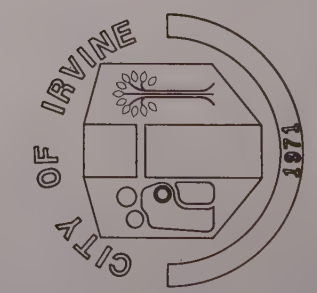


FIG. E-1

FIG. E-1

- Laguna Canyon Freeway: A freeway with a rural character related to Laguna Canyon.
- San Diego and Santa Ana Freeways: Primarily urban freeways providing views of significance to both City, County, State and National residents as the gateways to one of the world's major new towns as well as views of the University of California at Irvine, Irvine Industrial Complex-East, Irvine Business Complex, the regional triangle, the North Irvine District Center, the north-south open space spine and the Irvine agricultural district.

The scenic highways have been built out, either wholly or partially, within the flatland areas of the City. Substantial urban development has occurred along Culver Drive, Santa Ana Freeway (I-5) and the San Diego Freeway (I-405). Partial urban development has occurred along Jeffrey Road/University Drive and little or no development along Laguna Canyon Road. Within the City's hilly areas, no scenic highway development has occurred except for portions of the San Joaquin Hill Road.

Trends

Development of the City's scenic highways is anticipated to occur concurrently with development of adjacent properties. Since neither the State nor the County scenic highway programs fund development of highways, road build out is provided as the need arises. Development of scenic highways, therefore, will be completed first in the flatland areas of the City, with gradual completion of the system in the hilly areas as these areas are developed.

Identification of Issue

1. The extent of undeveloped land can allow the City to preserve and enhance its scenic highway corridors through appropriate design guidelines and review processes. How can the City protect the scenic resources of the scenic highways?

Responses to Issues

Irvine is unique in that the planning and development of scenic highways can be integrated into the City's overall development. Through this element, the City has adopted a scenic highway plan, designating several roadways as urban or rural scenic highways. The following goal, objectives, and implementing actions have been adopted to facilitate the enhancement of these highways.

GOAL E

SCENIC HIGHWAYS ELEMENT

Preserve and enhance the visual, historic, and cultural aspects of the highway travel experience.

To achieve this goal, the City of Irvine has adopted the following objectives and implementing actions:

OBJECTIVE E-1

Define scenic highways and establish specific definitions of scenic highway corridors.

Implementing Actions:

- a. Utilize Figure E-1 as the City's scenic highway plan.
- b. Define specific visual limits to the identified scenic highway corridors based on, but not limited to, the following criteria:
 - Topographic limits of significant view (e.g., canyon scenic highways).
 - Extent of view to significant landmarks (e.g., freeway views to UCI and Irvine Center).
 - Extent of view to edges of land uses which may define a corridor edge (e.g., El Toro edge to agricultural district).

OBJECTIVE E-2

Develop design guidelines and review procedures for all users within the scenic highway corridors.

Implementing Actions:

- a. Develop specific design guidelines and review policies related to the extent, height, character, and quality of development within the scenic highway corridors.
- b. Coordinate scenic highway planning with preservation and development of the conservation and open space plan, the recommended bicycle, hiking, and equestrian trails, and with transit corridors.
- c. Coordinate scenic highway planning and implementation with the County and State.

Standards

(Reserved)

Related Objective Numbers

Circulation Element - D-1, D-2, D-5

Conservation and Open Space Element - L-4

Compliance Regulations

City of Irvine Zoning Ordinance

I-I

ENERGY ELEMENT

The Energy Element provides a basis for long-range energy planning within the City. The purpose of the Energy Element is to summarize information and state local public objectives which, when implemented, will result in efficient energy consumption by the City and its residents, businesses, and industries. This Element is optional under California law. A technical report containing information on Irvine's current and projected energy supply/demand is included as an appendix to the General Plan.

Description of Energy and Energy Sources

Energy is defined as anything that makes it possible to do work and anything capable of bringing about movement against resistance. The utilization of energy depends upon the availability of sources and development of the technological skill to use them. Energy is commonly supplied by non-renewable sources such as petroleum fuels and natural gas. Other types of energy sources, including solar, wind, hydroelectric, and geothermal are called renewable sources.

The most common unit for measuring energy is the British Thermal Unit (BTU). It is the energy necessary to raise one pound of water one degree Fahrenheit. BTU measurement is used to compare various energy consumption.

The most prevalent forms of energy supply in California are petroleum fuel, natural gas and electricity. Petroleum fuel consists primarily of gasoline and diesel fuels and is measured in gallons (12,500 BTU/G). Natural gas, like petroleum, is found in large underground fields and is measured in cubic feet (1,050 BTU/CF). Electricity is generated by power plants which are powered by primary sources including petroleum, natural gas, coal, moving water (hydroelectric) nuclear fuel, and geothermal steam. Electricity is measured in kilowatt hour (3,413 BTU/Kwh at point of use).

Nonrenewable energy sources are vulnerable to interruption and price fluctuation. In addition, the by-products from the conversion of nonrenewable sources to energy are harsh on the environment. Air pollution, water pollution, and acid rain are some examples of undesirable by-products. Such concerns are not associated with most renewable sources. The energy crisis of the 70's demonstrated the problems associated with relying solely on non-renewable sources. Substituting renewable for nonrenewable sources will reduce the chance of a future energy crisis. Energy conservation will also aid in avoiding future energy crises. This conservation can be accomplished through reduced consumption, increased efficiency, and changes in individual behavior.

Existing Conditions

1. Supply

The present sources of Irvine's energy are nonrenewable. The use of renewable sources such as solar, wind, and geothermal are increasing in California, but have not, as yet, been significant in Irvine. Oil companies supply petroleum fuels to Irvine as to other California communities. In 1980, 50% of the crude oil was supplied from California sources and only 16% was supplied from sources out of the United States. The primary supplier of retail natural gas to Irvine is the Southern California Gas Company (SCG). The major wholesale source for SCG is the El Paso Natural Gas Company. The Southern California Edison Company (SCE) supplies Irvine's electricity. SCE's electricity is generated from a combination of oil, natural gas, hydroelectric, nuclear, and renewable sources (wind and solar). The major primary source of SCE electricity is from oil and natural gas (67%).

2. Consumption

Irvine's energy is consumed by residential, commercial, industrial, agricultural, and transportation uses as shown in the following table. The table does not include government energy consumption because of the lack of utility sales data. However, in 1980, Irvine allocated \$539,120 for energy consumption in municipal buildings and facilities.

IRVINE'S CURRENT ENERGY CONSUMPTION 1980 (BTU x 10⁹)

	<u>Electricity</u>	<u>Natural Gas</u>	<u>Liquid Fuel</u>	<u>Total Amount</u>	<u>%</u>
Residential	1,456	1,442	-	2,898	23.2%
Commercial	2,793	822	-	3,615	28.9%
Industrial	2,249	937	-	3,186	25.5%
Agricultural	315	1	-	316	2.5%
Transportation	-	-	2,496	2,496	19.9%
TOTAL:	6,813	3,202	2,496	12,511	100.0%

Source: See the technical appendix, Section III "Energy Demand".

The commercial sector is the major electric energy consumer in Irvine. Natural gas is mostly consumed by the residential sector. Transportation is the only major end user of liquid fuels. Overall, the commercial sector is the greatest energy consumer in Irvine. Residential and commercial energy "end use" consumption is also calculated to target specific end uses for conservation measures, as shown in the following table:

PERCENTAGE END USE ENERGY CONSUMPTION

	<u>Residential</u>		<u>Commercial</u>	
	<u>Electricity</u>	<u>Natural Gas</u>	<u>Electricity</u>	<u>Natural Gas</u>
Space heating	3.9	58.1	1.0	53.8
Space cooling	2.2	-	36.4	7.2
Water heating	7.2	27.6	1.0	5.3
Cooking	4.4	6.5	.1	.8
Refrigeration	24.6	-	4.0	.8
Lighting	33.5	-	49.0	-
Other (pool, T.V., dryer, etc.)	24.2	7.8	8.5	32.1
TOTAL:	100.0	100.0	100.0	100.0

Source: See the technical appendix, Section III "Energy Demand".

Lighting and space heating are the principal end users of electricity and natural gas in the residential and commercial sectors.

Trends

1. Supply

The Energy Element assumes that the existing mix of supply will continue as the dominant source of Irvine's energy through 1990. Some renewable energy sources, such as solar water heating, will replace existing sources, but will not significantly change the future mix of Irvine's supply.

As the use of nonrenewable sources continues, energy prices will rise. From 1970 to 1980, the price of crude oil increased from \$1.50 to \$30.00 per barrel. Between 1975 and 1980, the price of natural gas almost doubled for residential and tripled for commercial sectors and the price of electricity almost doubled for all sectors. The California Energy Commission (CEC) has projected that between 1980 and 1990, the price of natural gas, electricity, and liquid fuel will increase by an average of 121%, 49%, and 54%, respectively.

2. Consumption

Irvine's future energy consumption has been evaluated based on two scenarios: a) the "base case" assumes that the existing energy consumption pattern continues without conservation and that the energy consumption increases in proportion to the change in building stock and/or population growth; b) the "conservation case" assumes that energy conservation measures and renewable sources are implemented.

The principal rationale behind the conservation case is the strong enforcement of the state's Title 24 standards and the City's Energy Element voluntary objectives and implementing actions. The following table illustrates the 1990 sectoral energy consumption for the base and conservation cases. The difference between the two cases results in energy savings (in constant dollars) that the Energy Element objectives are to achieve.

PROJECTED ENERGY CONSUMPTION AND DOLLAR SAVINGS
1990

	"Base Case"		"Conservation"		Dollar Savings
	BTU x 10 ⁹	%	BTU x 10 ⁹	%	
Residential	6,087	21.4	4,192	20.4	13,403,306
Commercial	12,473	43.9	8,357	40.7	31,887,312
Industrial	6,691	17.8	5,346	19.7	8,962,693
Agricultural	351	1.3	176	.9	1,385,225
Transportation	4,418	15.6	3,756	18.3	13,573,307
TOTAL:	30,020	100.0	21,827	100.0	69,211,835

Source: See the technical appendix, Section III "Energy Demand".

The commercial sector will remain the major energy consumer and potentially the largest energy saver in Irvine until 1990. Irvine's total potential dollar savings is approximately \$69 million.

Identification of Issues

1. Energy prices are projected to increase by 121% for natural gas and 49% for electricity by the year 1990, resulting in higher energy costs for Irvine's residents, businesses, industries, and municipal operations. What action can the City take to mitigate the impact of rising energy costs?
2. The City is vulnerable to energy supply disruptions because it depends on non-renewable energy supplies which are not responsive to local control. How can the City reduce the vulnerability and increase the use of locally available resources?
3. The City's expected growth, will double energy consumption between 1980 and 1990. As a result, over \$277 million will flow out of the community. How can the City decrease the flow of energy dollars out of the Community?
4. State title 24 standards require local agency enforcement to achieve the required reduction in energy consumption. How can the City successfully implement the title 24 standards?
5. State regulations neither regulate nor provide incentives for passive design features in new and existing development or insure that there is solar access to structures. How can the City promote the use of passive design and insure solar access?
6. Regional energy policy planning, such as transportation planning, requires local government input and involvement. How might the City influence regional policies to serve local residents and businesses more effectively?
7. The public lacks knowledge of energy programs and regulations. How can the City inform the public of existing and future potential energy programs and regulations?
8. The majority of Irvine's buildings do not meet current title 24 standards. In what ways might the City encourage upgrading these buildings to save energy?
9. Incentives are available for encouraging voluntary energy retrofit of buildings. In what ways might the City encourage public acceptance of energy retrofit programs?
10. Current municipal facilities and operations are not energy efficient. Over \$539,120 was spent on energy bills in 1980. How can the City manage its energy dollars more effectively?
11. The City is vulnerable to energy shortages. How can the City maintain its services to protect the public health and safety during energy shortages?
12. The energy regulations and programs offered by different levels of government and private agencies lack the coordination which would allow for effective implementation. What services can the City provide to implement energy programs and promote the use of alternative renewable energy sources?

Response To Issues

Development of a General Plan Energy Element was initiated in 1977 and was designated as General Plan Amendment (GPA-0009-B) in 1980. An Energy Advisory Committee was appointed by the City Council, to assist staff in developing the energy element. This element is the result of a close working relationship between the City staff and the Energy Advisory Committee. The following goal, objectives, and implementing actions respond to the identified issues:

GOAL I

ENERGY ELEMENT

Promote energy conservation and the use of renewable energy sources throughout the City.

To achieve this goal, the City of Irvine has adopted the following objectives and implementing actions. It is understood that measures proposed shall be examined for cost-effectiveness and compliance with applicable City standards.

OBJECTIVE I-1

Maximize energy efficiency within the City through land use and transportation planning.

Implementing Actions:

- a. Incorporate the following or comparable design features, to the extent feasible, in developments at time of concept plan, subdivision, or site design review.
 - o Street layouts which maximizes solar access and natural ventilation.
 - o Building orientation which maximizes solar access, natural ventilation, and which minimizes conflicts of solar access with adjacent structures or properties.
 - o Energy efficient landscaping (water conserving plants, indigenous vegetation and use of on-site water run-off).
 - o Landscaping which provides cooling opportunities during summer and which minimizes conflicts with solar access during winter.
 - o Cluster and/or planned unit development
 - o South slope utilization in hillside development.
- b. Encourage and promote incorporation of energy conservation measures at time of conditional use permits and site designs. The measures should be developed in conjunction with the applicant and may include:
 - o Active solar water and/or space heating
 - o Passive design features for heating and cooling
 - o Use of energy efficient devices
- c. Encourage development of shared energy facilities in major commercial projects where cost effective, such as:
 - o District wide heating/cooling system
 - o Solar water heating
 - o Photovoltaics
- d. Develop guidelines establishing architectural and aesthetic controls for solar devices. Guidelines should provide reasonable controls while maintaining cost effectiveness of devices or systems.
- e. Encourage developers to use the residential Title 24 standards for structures over four stories until the state officially adopts such standards.
- f. Encourage developers to use the commercial Title 24 standards for commercial office buildings until they become effective in 1987.

- g. Facilitate the participation of industries in the following conservation programs where cost effective:
 - o Cogeneration (process heat/steam/electricity)
 - o Reclaiming waste products (biomass, solid waste, waste water)
 - o Recycling (aluminum, paper, glass and steel)
- h. Investigate the feasibility of a ridesharing service/coordinator to implement the traffic management plan for the Irvine Business Complex (IBC).
- i. Require developers of major commercial or industrial facilities who develop a transportation management plan to address such measures as:
 - o Flex time and/or shifting work schedules to avoid peak traffic
 - o Employee car pools and van pools
 - o Preferential and free parking for car poolers and van poolers
 - o Ridesharing programs (e.g., IBC Program)
 - o Shuttle services from regional transportation (e.g., rail/bus) stations to final destination
 - o Subsidies for transit passes
 - o Locker room facilities for employees (e.g., for bicyclists)
- j. Promote use of alternative modes of transportation in the City by the following programs:
 - o Encourage use of regional public transportation (e.g., rail service) by:
 - supporting the development of regional transportation stations in Irvine
 - making schedules available at City Hall and other public agencies
 - requesting OCTD to establish and provide information on bus connection for regional transportation passengers
 - o Encourage use of the bus system within the City by working with OCTD to provide:
 - bus circulation between residential, commercial and industrial uses
 - more efficient transfers between bus routes
 - posted schedules at bus stops
 - widely distributed bus schedules
 - shuttle services from regional transportation stations to final destination
 - o Encourage use of public transit and ridesharing by promoting and participating in public information programs aimed at schools, sports clubs and other institutions and organizations.
- k. Continue implementing the City program to synchronize traffic lights

- l. Modify and update energy-related City regulations and policies to be consistent with the Energy Element, and incorporate energy efficiency criteria (e.g., City's landscaping manual)
- m. Monitor the Federal, State, regional, other local governments, the utility companies, Irvine Ranch Water District (IRWD) and other private and public agencies' energy programs and regulations and:
 - o Explore opportunities and limitations on use of renewable sources in the City
 - o Obtain information and technical assistance for the City's energy programs
 - o Implement Federal and State Energy Programs (e.g., Residential Conservation Service (RCS))
 - o Support continuation of tax credits for alternative renewable sources and conservation measures
 - o Allocate available Federal funds and grants such as CDBG, and Solar Bank for energy programs for low income and senior housing projects
 - o Inform developers and the general public of recent available energy programs, regulations, technical and economic data (e.g., cost effectiveness)

OBJECTIVE I-2

Promote energy savings in buildings constructed prior to 1978.

Implementing Actions:

- a. Encourage voluntary retrofit energy programs for residential, commercial and industrial buildings including energy conservation measures such as:
 - o Residential retrofit measures
 - ceiling and wall insulation
 - weather stripping, sealing and caulking
 - low flow shower head
 - water heater tank insulation
 - duct insulation
 - air conditioning recycling devices
 - computer controlled thermostats
 - o Commercial retrofit measures
 - ceiling and wall insulation
 - weather stripping, sealing and caulking
 - shading controls (e.g., overhangs)
 - lighting controls
 - thermostat controls (summer and winter)
 - optimum HVAC scheduling
 - o Industrial retrofit measures
 - operating and maintaining equipment at peak performance
 - maintaining furnaces
 - adjusting lighting
 - plugging leaks in heating and cooling process
- b. Support the voluntary retrofit energy programs by considering the provision of the following:
 - o An energy efficiency rating system for identifying the needed type of retrofit measures
 - o Information to the Chamber of Commerce, realtors, building contractors, homeowners, apartment owners and consumers on retrofit measures' installation, cost-effectiveness, tax credits, financing assistance, and other agencies' energy programs
- c. Promote the voluntary residential retrofit energy program by encouraging homeowners' associations to do the following:
 - o Purchase bulk solar systems and conservation materials
 - o Sponsor buying clubs, cooperative or other suitable mechanism to purchase, install, and maintain retrofit measures
- d. Provide technical assistance for homeowners for the installation of active solar systems, such as information on optimal orientation and building code requirements

- e. Work closely with the utility companies and the Chamber of Commerce, schools and other public entities in support of energy reduction programs, and dissemination of information regarding these programs:
- f. Consider increasing public information regarding energy programs by:
 - o Mailing energy consumption and conservation data to homeowners' associations
 - o Displaying energy information in local shopping area and community centers, City and other public (UCI) libraries
 - o Publishing energy information in local newspapers
 - o Incorporating energy information in city schools, Saddleback College and UCI programs
- g. Provide homeowners' associations and the general public with available information on:
 - o Renewable energy sources, conservation measures, and technical and economic data (e.g. cost-effective analysis)
 - o Consumer protection issues and programs

OBJECTIVE I-3

Maximize energy efficiency of the City's facilities and operations by use of renewable sources and conservation measures.

Implementing Actions

- a. Develop a comprehensive energy management program to reduce energy consumption for municipal facilities and operations including:
 - o Public buildings and facilities
 - o Street lighting
 - o City vehicle fleet management
 - o Appliance/equipment procurement
 - o Employee energy awareness program
- b. Utilize the Title 24 commercial office building standards (effective 1987) for new municipal facilities.
- c. Incorporate the commercial retrofit conservation measures in municipal facilities where reasonable.
- d. Use the following renewable sources for municipal facilities where cost effective:
 - o Solar water and pool heating
 - o District heating system
 - o Photovoltaics
 - o Cogeneration
- e. Establish a fund for improving energy efficiency of municipal facilities, and reinvest up to 50% of energy savings for implementing the actions of this energy element.
- f. Develop an energy plan coordinated with utilities, local and regional government agencies.
- g. Consider the following strategies until the City energy contingency plan is developed:
 - o Increase fuel storage
 - o Establish a hot line for consumer assistance
 - o Develop a City fleet monitoring data base
 - o Coordinate with transportation providers and major employers

- o Develop an employees' contingency plan
- h. Consider establishing a City energy service/coordinator with adequate support to promote, implement and administer the Energy Element.

Standards

(Reserved)

Related Objective Numbers

Land Use Element - A-1, A-2
Urban Design Element - B-2, B-3
Housing Element - C-3
Circulation Element - D-1, D-3, D-4, D-5, D-6, D-7
Noise Element - F-1
Waste Management Element - H-1
Conservation and Open Space Element - I-1, I-4

Compliance Regulations

1. Federal

Energy Policy and Conservation Act of 1975
National Energy Act (NEA) of 1978
National Energy Conservation Policy Act (NECPA) of NEA 1978
Public Utilities Regulatory Policies Act (PURPA) of NEA 1978
Power Plant Industrial Fuel Use Act (PIFUA) of NEA 1978
Federal Solar Energy Tax Credits (effective 1977)
Federal Residential Conservation Tax Credits (effective 1977)
Energy Security Act (ESA) of 1980
Solar Energy and Energy Conservation Bank of ESA 1980 (effective 1982)

2. State

Title 24 Standards (effective 1978)
Solar Rights Act (effective 1979)
Solar Shade Control Act (effective 1979)
Subdivision Map Act Section 66473.1 of Solar Rights Act of 1979
California Solar Energy Tax Credit (effective 1977)
California Conservation Tax Credit (effective 1981)
Solar System Property Tax Exemption (effective 1981)
Accelerated Depreciation (effective 1980)
Waste Product Tax Exemption (effective 1981)
Joint Powers Act (effective 1980)
Stream Line Process established for Geothermal, Cogeneration, and Coal
Classification Power Plant (effective 1981)
Gasohol Tax Exemption (effective 1981)
Small Alternative Energy Business Loans (effective 1981)
California Alternatives Energy Sources Financing Authority (effective 1981)
Biomass Demonstration Project (effective 1980)
Agricultural Forestry Residues Sources (effective 1980)
Senate Bill 3048 (approved 1980) - Explore the use of methanol and ethanol in motor
vehicle fleets
Assembly Bill 2976 (approved 1978) - Accelerate wind commercialization
State Assistance Fund Energy Business Industrial Development Corporation Act
(SAFE-BIDCO) of 1978
Environmental Quality Act (CEQA) of 1970

3. City

Codes of Ordinances

Chapter 5 - Subdivision Requirements, Energy Conservation, Section V.F-511

Chapter 6 - Housing Code, Sections 401 & 701

Chapter 11 - Uniform Solar Energy Code, Section 601

Zoning Ordinances

CEQA Procedures

I-F

NOISE ELEMENT

The noise element is, by State law (California Planning and Zoning Law, Section 65302(g)), a mandatory component of the general plan. The purpose of the noise element is to provide a summary of information and a statement of public policies regarding the maintenance of a quiet environment.

Description of Noise

Noise is unwanted sound which is considered unpleasant and bothersome. Noise has become a serious environmental problem because of its adverse effects on people and the environment. Every day people are exposed to various levels and sources of noise, which affects them physically and psychologically. People have much more difficulty in adjusting to this stress than is commonly believed. Researchers have found little evidence that people can adapt to noise easily. The most apparent physiological effect of noise is the temporary, or in some cases permanent, loss of hearing. Noise can disrupt or interfere with communication and disturb sleep. It can also decrease children's ability to discriminate among different sounds, which affects their learning ability.

In order to define noise, it is important to identify the physical characteristics of sound. Sound is the result of a sound source inducing vibration in the air. Sound has three variables: amplitude/loudness, frequency/pitch, and pattern of time.

Amplitude/loudness is the sound pressure measured in decibels (dB). Decibels are based on a logarithmic scale because the range of sound intensities is so great that it is convenient to compress the scale to encompass all the sounds needed to be measured.

Frequency/pitch is the rate at which a sound source vibrates or makes the air vibrate. The means by which it is measured is known as Hertz (H_z), which is the number of cycles per second.

Pattern of time and level produces different sounds such as: continuous (long periods at a constant level, e.g., waterfall); intermittent (short periods, e.g., aircraft takeoff); impulse (extremely short span of time, e.g., hand clap); fluctuating (variations in level over time, e.g., traffic sounds at a busy intersection).

The time when sound occurs contributes significantly to the objectionable nature of sound. Sound levels that normally occur during daylight hours and are not considered objectionable, may be excessive when they occur at night, a period when most people demand quiet.

Individual sounds can be expressed in terms of A-weighted decibels - dB(A). The A-weighted scale is a frequency dependent rating scale. It de-emphasizes the very low and very high frequency components, thus placing greater emphasis on sound frequency within the sensitivity range of the human ear. Everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud). The average level of conversation ranges from 60 to 80 dBA. Sound becomes physically painful at 120 dBA.

Quantification of the noise environment over a period of time requires an additional method of description. There are a number of noise rating scales, the most common of which is the Equivalent Noise Level (Leq). The Leq is the energy average of a fluctuating noise source over a specified period of time. The energy average (Leq) of each hour of the day, weighted for the more sensitive time periods within 24 hours, may describe the Community Noise Equivalent Level (CNEL) or Day Night Average (L_{dn}). California Planning and Zoning Law, Section 65302(g) requires that general plan noise elements use either CNEL or L_{dn} to describe and evaluate community noise levels. CNEL is commonly used by California local governments and is also used by the City. CNEL is a combination of the loudness, duration and time of occurrence of a noise event. Three time periods have been identified: 7 a.m. - 7 p.m. for daytime, 7 p.m. - 10 p.m. for evening, and 10 p.m. - 7 a.m. for nighttime. During the evening hours, each hourly Leq is penalized by 5 dBA. Night Leq is penalized by 10 dBA.

The transmittal of sound involves three statistical components: source, transmission path, and receiver. Noise can be mitigated by treatment of any of the three components such as: reducing noise source, increasing the distance (path), or placing a barrier between the noise source and receiver, and insulating the receiver. The following are examples of these mitigation measures.

- | | |
|------------------------|---|
| Fixed noise sources | - A doubling of distance (transmission path) will produce a 6 dBA reduction in sound level. |
| Transportation sources | - A doubling of distance (transmission path) will produce a 4.5 dBA reduction in sound level. |
| | - A row of two-story buildings will provide a reduction of about 10 dBA. |

Existing Conditions

The most pervasive noise in Irvine, as in most other communities, comes from mobile noise sources, including motor vehicles, railroads, and aircraft. Three major freeways, one thru railroad line, and three airports expose the City to significant noise impacts, particularly in those areas adjacent to the freeways, major streets, railroad, or airports. Aircraft flight tracks in Irvine also impact particular areas of the City significantly. The City is also exposed to noise emanating from sources such as industrial and commercial activities, construction activities, and human activities.

Noise affects all types of land uses and activities, although some are more sensitive to high noise levels than others. The noise sensitive land uses include residential, convalescent and rest homes, hospitals, libraries, churches, and schools.

Noise is generated by numerous sources. For the purpose of this Noise Element, the City recognizes two major categories of noise sources, mobile and stationary.

1. Mobile Noise Sources

Mobile sources are transportation-related (non-fixed) including motor vehicles, railroad, and aircraft. Motor vehicle noise is characterized by a high frequency of events, short duration, and proximity to areas sensitive to noise exposure. Rail transit and aircraft operations frequently generate extremely high noise levels which are disruptive to human activity. A technical report containing ground transportation noise data is included in the technical appendix to the noise element.

a. Motor Vehicles

Sources of vehicular traffic noise are automobiles, buses, trucks, and motorcycles. Noise is generated by engines, exhaust systems, transmissions, fans, tires, and air movement. The noise level is relatively constant around highways, but may vary near arterials and city streets.

The 60, 65, and 70 CNEL contours computed for existing vehicle traffic in Irvine are shown in Figure F-1. The noise contours incorporate the effects of topography and barriers such as walls, berms, and buildings. (For additional information, see the technical appendix to the noise element.)

b. Railroads

Railroad noise is the result of the mechanical processes of the engine, the interaction of the wheels with the track, and use of the horn. The amount of noise generated is dependent upon the speed of the train and the number of cars.

The Atchison, Topeka and Santa Fe (AT & SF) Railroad Line passes through the northern part of the City of Irvine in an east/west direction. The railroad operation includes 14 commuter trains (10 per day and 4 per night), and an average of 6 freight trains (4 per day and 2 per night). The number of freight trains depends on economic demand. There are also spur lines located in Northwood Village, IBC, and Irvine Industrial Complex-East. The noise generated by these spur lines is insufficient to provide CNEL contours in excess of 60 dB outside the right-of-way.

Figure F-1 illustrates the existing railroad CNEL contours. (For additional information see the technical appendix to the noise element.)

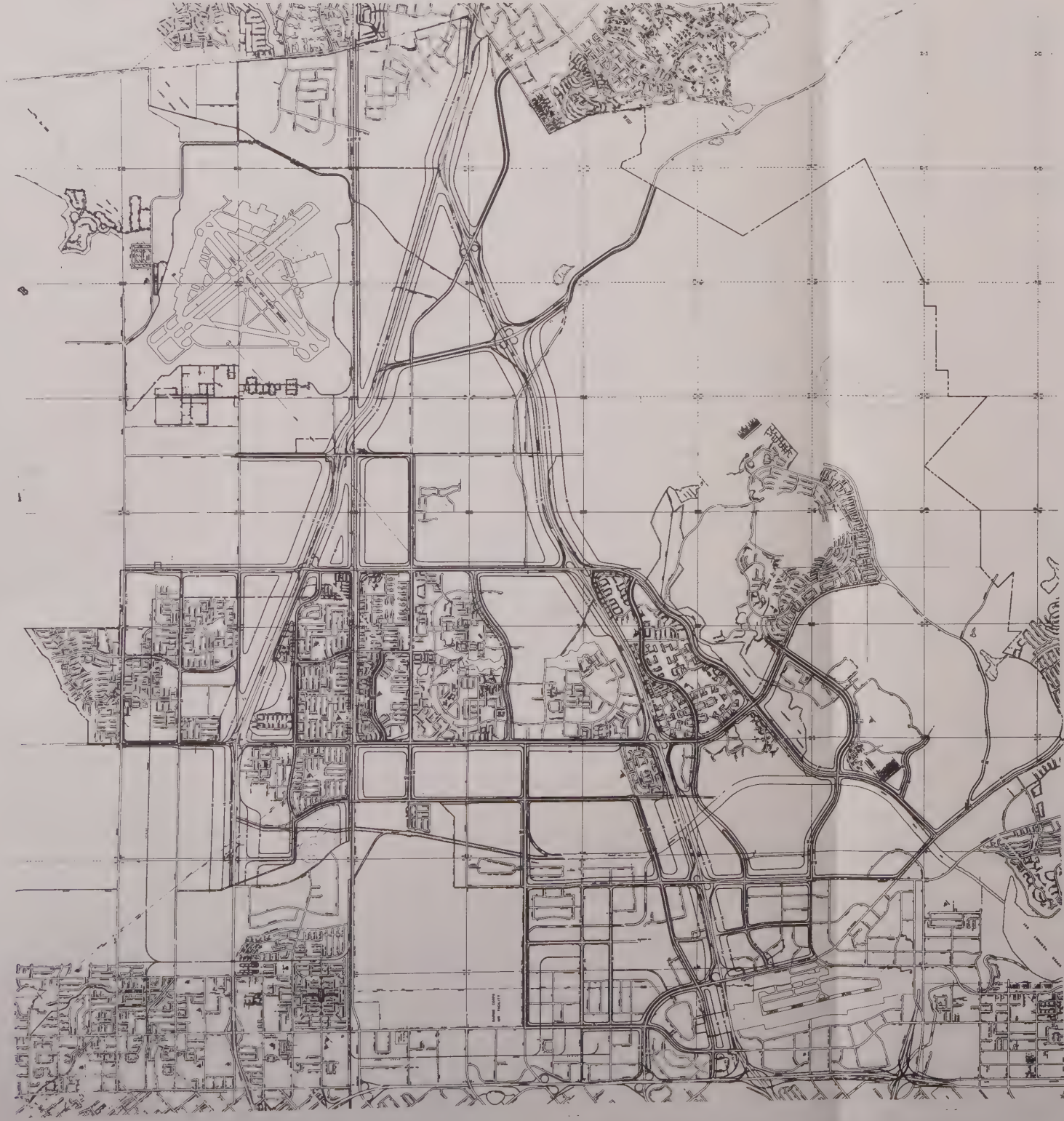
At present, 256 dwelling units are exposed to ground transportation noise levels over 65 CNEL (see technical appendix). This means that approximately 691 residents are impacted by noise levels in excess of the City noise standard. (Estimate based on an average of 2.1 pop/du).

c. Aircraft

Aircraft noise generally affects areas within the airport vicinity during takeoffs and landings, and areas located around the flight tracks. Airborne noise sources in Irvine include aircraft operations at MCAS El Toro, helicopter operations at MCAS(H) Tustin, and civil air operations at John Wayne Airport.

The major aircraft noise source in Irvine is MCAS El Toro, which is located northeast of Irvine. Many noise studies have been conducted for MCAS El Toro operations over the past several years. The first MCAS El Toro noise study was completed in 1970 by the firm of Bolt, Beranek and Neuman (BB&N) and was updated in 1972. The BB&N noise contour map has been included in the City of Irvine's noise element since 1973.

The most recent noise study for MCAS El Toro was completed in August, 1979 by the Navy Aircraft Environmental Support Office (AESO), and adopted in 1981 by the Marine Corps as part of the Air Installation Compatible Use Zone (AICUZ) Study. The noise levels for the AESO study were predicted by



EXISTING HIGHWAY /RAILROAD NOISE

— 65 — C.N.E.L. CONTOURS

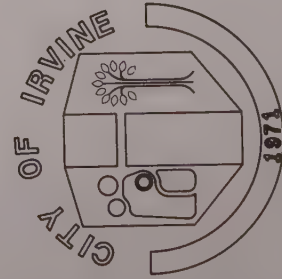


FIG. F-1

FIG. F-1

computer, based on noise characteristics of aircraft as measured by the military, and annual operations data (number and type of aircraft movements, and flight tracks) according to the Marine's records. The final position of the computed CNEL contours was verified by several site specific studies outside of Irvine. It is the City's position that additional studies should be conducted, with sites in Irvine, to verify these noise contours. However, until that is accomplished, the AESO noise contours represent the best information available, for planning analysis (for noise contour adjustments, see the land use element, Implementing Action A-1-f).

The noise from helicopter operations also affects the City. The City presently uses the 1976 AICUZ noise contour map for the assessment of the MCAS(H) Tustin helicopter noise impacts. The MCAS(H) Tustin noise contour map has been undergoing revision by the Marine Corps as part of the AICUZ study for that base. The City will consider adoption of the updated noise contour map after its approval by the Marine Corps.

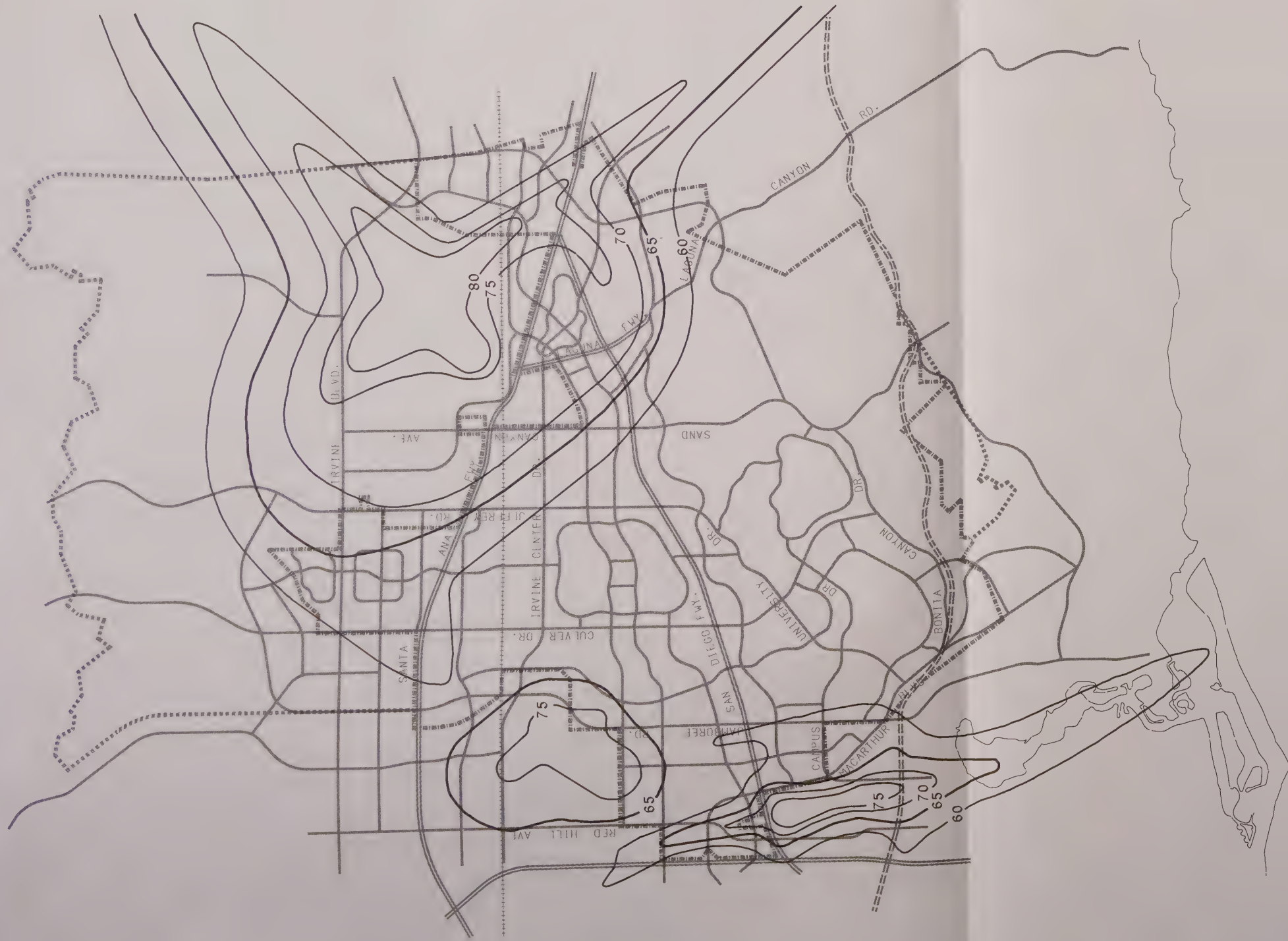
The John Wayne Airport noise contour map, developed by Wiley Laboratories in February 1975, is used for the assessment of aircraft noise impacts from John Wayne Airport. In accordance with state requirements, the Noise Abatement Center of John Wayne Airport, established in 1971, monitors the noise generated by airport operations and prepares a noise contour map annually. The Noise Element incorporates the 1980 noise contour map and the City will use the future annual updates of the noise contour map for planning analysis.

Figure F-2 illustrates the 1979 AESO noise contours for MCAS El Toro, 1976 MCAS(H) Tustin noise contours and the 1980 John Wayne Airport noise contours.

The major aircraft noise impact on residential areas in the City is from MCAS El Toro. At present, approximately 264 acres of developed residential land is exposed to El Toro aircraft noise in excess of 65 CNEL. This means that approximately 6,600 residents are impacted by noise levels in excess of the City noise standard. In addition, 23 planned residential acres (within the City limits) are exposed to El Toro aircraft noise in excess of 65 CNEL. This means that approximately 575 people would be impacted by noise levels in excess of City noise standards. (Estimates based on general plan residential land use densities and population figures.)

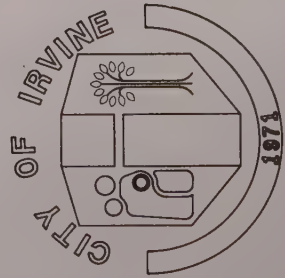
2. Stationary Noise Sources

Stationary noise sources are the noise sources in the community such as industrial and mechanical equipment, which are often referred to as "fixed sources." Industrial noise generated by processing and operation is usually of long duration at relatively low frequencies. Construction sources generate high noise levels for extended periods of time.



AIRCRAFT NOISE

— 65 — C.N.E.L. CONTOURS



SPHERE OF INFLUENCE CITY BOUNDARY

FIG. F-2

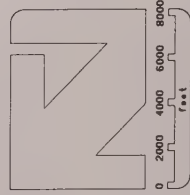


FIG. F-2

The following are examples of stationary noise sources:

Mechanical electric equipment (air conditioners, refrigeration units, swimming pool and spa pumps and filters, air compressors, industrial plant machinery);

Various power tools (lawn mowers, leaf blowers, other gardening equipment);

Construction activities (construction, repair, remodeling or grading);

Commercial/industrial activities (truck pick-up and loading, car wash facilities, industrial operations);

Animal noise (barking dogs); and

Human-related activities (loud parties, loud music, radio, T.V., children playing).

The City's existing Noise Ordinance establishes the maximum permissible noise level which may intrude into a neighbor's property. The Ordinance (adopted in 1975 and revised in 1984) establishes noise level standards (dBA) for various land use categories being affected by stationary noise sources. The Ordinance regulates the timing of construction activities and includes special provisions for sensitive land uses. Up to the present time, the City Noise Ordinance has been enforced in response to noise complaints.

Trends

1. Mobile Noise Sources

a. Motor Vehicles

Since the City is only partly developed, motor vehicle noise will continue to be significant even if each individual vehicle eventually meets state noise standards. An increased use of convenient mass transit systems may contribute to noise reduction. Future motor vehicle noise contours incorporating the future motor vehicle noise reduction of 1.9 dBA are shown in Figure F-3. (For additional information, see the technical appendix to the noise element.)

b. Railroads

It is expected that over the years there will be a gradual build up of railroad freight traffic. Any alternative mode of rail passenger travel such as commuter rail or bullet train might contribute to increased noise levels. Future railroad noise contours are shown in Figure F-3. (For additional information see the technical appendix to the noise element.)

By the year 2000 an estimated 1,523 acres of undeveloped land (within the City limits) will be exposed to ground transportation noise levels over 65 CNEL. Approximately half of this amount is planned for residential development (760 acres). In addition, there will be 1,405 existing dwelling units exposed to ground transportation noise levels over 65 CNEL. The following table indicates the potential residential population that would be exposed to future noise levels if no mitigation measures were incorporated.



FUTURE HIGHWAY/RAILROAD NOISE

— 65 — C.N.E.L. CONTOURS

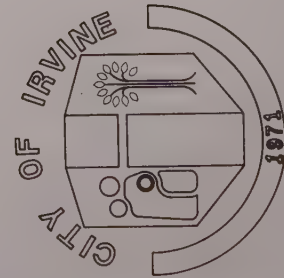


FIG. F-3

FIG. F-3

Potential Residential Population Exposed to
Future Ground Transportation Noise (Year 2000)

	60-65 CNEL	65-70 CNEL	70+ CNEL
Presently Developed Areas - # Pop =	4,641	3,529	265
Areas yet to be developed - # Pop =	18,012	13,427	6,481

(Source: see technical appendix.)

(Technical report and City of Irvine estimate based on general plan residential land use densities and population figures)

The City can control the future noise impacts for new developments to some extent by land use and transportation planning. Noise impacts on existing development can be reduced only by remedial mitigation measures which can be identified by "Special Noise Study" reports.

c. Aircraft

It is expected that over the years noise impacts to the City from aircraft operations at MCAS El Toro, MCAS(H) Tustin, and John Wayne Airport will not be increased. Although the City of Irvine does not have jurisdiction over the aircraft operations, the City has a Memorandum of Understanding with the Marine Corps with respect to aircraft noise and operations. Also, based on the State Airport Noise Regulation (Title 21), John Wayne Airport (as a civil airport) is required to reduce the airport noise impact on existing communities.

2. Stationary Noise Sources

As the City develops further, it is expected that stationary noise levels will increase. However, by use of more rigid control measures and enforcement of the Noise Ordinance in the development process, the impacts can be mitigated.

Identification of Issues

The following is a summary of the major noise issues in the City of Irvine:

1. The City and its residents are exposed to significant noise impacts from the three major freeways, the railroad, and the three airports within its environs. Transportation noise levels are projected to increase as a result of increased traffic generated by future land development. How can the City ensure that residents are not exposed to excess mobile noise levels?
2. As the City develops it is expected that stationary noise levels will increase. How can the City ensure that residents are not exposed to excess stationary noise levels?
3. There is a multiplicity and incompleteness of noise regulations at various levels of government. How can these regulations be coordinated to provide a healthy noise environment?

4. There is a lack of public knowledge about noise problems and regulations. How can public awareness in this area be increased?

Response to Issues

It has been determined that the City's efforts toward noise control and abatement should emphasize the integration of noise considerations into the community planning and development process. As part of the noise element, a Land Use Noise Compatibility Chart (Figure F-4) has been developed for the purpose of identifying the compatibility of proposed projects with future noise levels. The CNEL Interior and Exterior Noise Standards (Figure F-5) and the Single Event Noise Standard were developed to ensure that projects would not be exposed to unacceptable noise levels.

The following goal, objectives, and implementing actions have been formulated as a policy response to the noise issues identified.

LAND USE NOISE COMPATIBILITY

FIGURE F-4

LAND USE CATEGORIES		COMMUNITY NOISE EQUIVALENT LEVEL CNEL						
<u>CATEGORIES</u>	<u>USES</u>	< 55	60	65	70	75	80	>
RESIDENTIAL	Single Family, Duplex, multiple family	A	A	B	B	C	D	D
RESIDENTIAL	Mobile Home	A	A	B	C	C	D	D
COMMERCIAL Regional, District	Hotel, Motel, Transient lodging	A	A	B	B	C	C	D
COMMERCIAL Regional, village District, special	Commercial retail, Bank restaurant, movie theatre	A	A	A	A	B	B	C
COMMERCIAL INDUSTRIAL INSTITUTIONAL, General	Office building, Research and development, Professional offices, City office building	A	A	A	B	B	C	D
COMMERCIAL Recreation INSTITUTIONAL, Civic Center	Amphitheatre, Concert hall Auditorium, Meeting hall	B	B	C	C	D	D	D
COMMERCIAL Recreation	Children's amusement park, Miniature golf course, go-cart track Equestrian center, Sport club	A	A	A	B	B	D	D
COMMERCIAL General, Special INDUSTRIAL, Gen.Man. INSTITUTIONAL	Automobile service station Auto Dealership Manufacturing, Warehousing, Wholesale, Utilities	A	A	A	A	B	B	B
INSTITUTIONAL General	Hospital, Church, Library Schools' classroom	A	A	B	C	C	D	D
OPEN SPACE	Parks	A	A	A	B	C	D	D
OPEN SPACE	Golf course, Cemeteries, Nature Centers, Wildlife Reserves, Wildlife Habitat	A	A	A	A	B	C	C
AGRICULTURE	Agriculture	A	A	A	A	A	A	A

INTERPRETATION

ZONE A
Clearly Compatible

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

ZONE B
Normally Compatible

New construction or development should be undertaken only after detailed analysis of the noise reduction requirements are made and needed noise insulation features in the design are determined. Conventional construction, with closed windows and fresh air supply systems or air conditioning, will normally suffice.

ZONE C
Normally Incompatible

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made and needed noise insulation features included in the design.

ZONE D
Clearly Incompatible

New construction or development should generally not be undertaken.

INTERIOR AND EXTERIOR NOISE STANDARDS

ENERGY AVERAGE(CNEL)

FIGURE F-5

LAND USE CATEGORIES		ENERGY AVERAGE (CNEL)	
<u>CATEGORIES</u>	<u>USES</u>	<u>INTERIOR</u> ¹	<u>EXTERIOR</u> ²
RESIDENTIAL	Single Family, Duplex	45 ³	55 ⁴
	Multiple Family (M.F.)		65
	Mobile Home	--	65 ⁵
COMMERCIAL/ INDUSTRIAL/ INSTITUTIONAL	Hotel, Motel, Transient lodging,	45	65 ⁶
	Commercial retail, Bank, Restaurant	55	--
	Office building, Research development, Professional office, City office building	50	--
	Amphitheatre, Concert Hall, Auditorium meeting hall	45	--
	Gymnasium (Multipurpose)	50	--
	Sport clubs	55	--
	Manufacturing, Warehousing, Wholesale, Utilities	65	--
	Movie Theatre	45	--
INSTITUTIONAL	Hospital, Schools' classroom	45	65
	Church, Library	45	--
OPEN SPACE	Parks	--	65

INTERPRETATION

- Indoor environment excluding: Bathrooms, toilets, closets, corridors.
- Outdoor environment limited to: Private Yard of single family
M.F. Private Patio or balcony which is served by a means of exit from inside.
Mobile home park
Hospital patio
Park's picnic area
School's playground
Hotel and Motel recreation area
- Noise level requirement with closed windows. Mechanical ventilating system or other means of natural ventilation shall be provided as of Chapter 12, Section 1205 of UBC.
- Noise level requirement with open windows, if they are used to meet natural ventilation requirement.
- Exterior noise level should be such that interior noise level will not exceed 45 CNEL.
- Except those areas affected by aircraft noise.

GOAL F

NOISE ELEMENT

Contribute to a healthy and safe environment by minimizing noise impacts.

To achieve this goal, the City of Irvine has adopted the following objectives and implementing actions:

OBJECTIVE F-1

Ensure that City residents are not exposed to mobile noise levels in excess of the CNEL Interior and Exterior Noise Standards (Figure F-5), and Single Event Noise Standard.

Implementing Actions:

- a. Require that all plans submitted for development review show the noise element existing noise contour (Figure F-1), future noise contour (Figure F-3) and aircraft noise contours (Figure F-2).
- b. Prohibit residential development within the 65 CNEL of aircraft noise contours.
- c. Ensure that all proposed development projects are compatible with the future noise level by using Figure F-4.
- d. Require "Noise Study" reports to be prepared in accordance with the City's environmental review procedure for all projects that are not "clearly compatible" with the future noise level at the site.
- e. Require "Noise Study" reports to use the future motor vehicle noise reduction of 1.9 dBA in identifying future noise levels of streets as identified in the Technical Appendix.
- f. Require "Noise Study" reports to identify all the mitigation measures necessary to reduce noise levels to meet the CNEL standard (Figure F-5) and Single Event Noise Standard.
- g. Require Single Event Noise Standard for noise sensitive land uses within the 60 CNEL of aircraft and railroad noise contours.
- h. Implement the mitigation measures identified by "Noise Study" reports through imposing appropriate conditions of approval on development proposals.
- i. Require a clear designation of mitigation measures on subdivision maps, site plans, and building plans for inspection purposes as a condition for subdivision approval.
- j. Require conditional use permits for noise sensitive land uses such as hospitals, libraries, churches, and schools to consider structural design and siting so as to avoid noise-related impacts.
- k. Require any project (new construction or additions) applying for a building permit to meet the CNEL standards (Figure F-5) and Single Event Noise Standard as a condition of building permit issuance.
- l. Update highway/railroad noise contour maps (Figure F-1 and F-3), every five years and/or whenever the City Traffic Analysis Program (TAP) Model has been significantly changed.
- m. Use the future annual updates of John Wayne Airport's noise contour map for planning analysis.

- n. Use the latest available aircraft noise contours of the MCAS El Toro and Tustin for land use evaluation, upon review and approval by the Planning Commission and City Council.
- o. Pursue further study of the MCAS El Toro aircraft noise contours (AESO) for local patterns when economically feasible. The study shall include maximum single event noise levels as well as CNEL.
- p. Incorporate the following noise mitigation measures in the design of new highways and streets.
 - alignment
 - barriers
 - lateral separation
 - vertical profile
- q. Examine the existing and projected future noise environment when considering amendments to the City's circulation system.
- r. Reduce noise impacts from mobile sources by encouraging use of alternative modes of transportation such as biking, hiking, and horse riding.
- s. Include in the capital improvement budget, funds for the construction of remedial mitigation measures for areas impacted by existing highways and streets according to the following priorities:
 - degree of sensitivity
 - excess of the maximum allowable standards
 - length of time the noise impact existed
 - number of residential units
- t. Reduce railroad noise impacts by incorporating measures for mitigating noise levels to meet the City's noise standards.
- u. Participate in cooperative efforts with AT&SF Railway and other agencies to fund and construct a railroad lowering program through residential areas of the City.
- v. Develop a program to exact fair share contributions to a railroad lowering project from new residential development adjacent to the railroad (after construction of the railroad lowering project has been confirmed).

OBJECTIVE F-2

Ensure that City residents are not exposed to stationary noise levels in excess of the City Noise Ordinance standards.

Implementing Actions:

- a. Require any project (new construction or additions) to meet the City Noise Ordinance standards as a condition of building permit approval.
- b. Require developers to depict on any appropriate development application review, (zone change, subdivisions, conditional use permit, site plan, and building plans) any potential noise sources known at the time of submittal and mitigation measures that insure these noise sources meet the City Noise Ordinance standards. Such sources include, but are not limited to, the following:
 - truck pick-up and loading areas
 - mechanical and electrical equipment such as air conditioning, swimming pool pumps and filters, and spa pumps
 - exterior nuisances such as speaker boxes and outdoor public address systems
- c. Condition subdivision approval of the projects adjacent to any developed/occupied noise sensitive land uses by requiring developer to submit a construction related noise mitigation plan to the city engineer for his review and approval prior to issuance of grading permit. The plan must depict the location of construction equipment and how the noise from this equipment will be mitigated during construction of the project, through the use of such methods as:
 - temporary noise attenuation fences
 - preferential location of equipment
 - use of current technology and noise suppression equipment.

OBJECTIVE F-3

Achieve maximum efficiency in noise abatement efforts through intergovernmental coordination and public information programs.

Implementing Actions:

- a. Coordinate efforts to reduce noise impacts with appropriate public agencies and levels of government.
- b. Monitor federal and state legislation and programs which will reduce noise in Irvine.
- c. Use police power to enforce the appropriate noise standards in the state's motor vehicle code and other state and federal legislation for mobile noise sources.
- d. Support the use of noise reducing modifications to aircraft engines and operations in the City.
- e. Seek the cooperation of operators of private and military helicopters in the modification and selection of flight paths which will reduce helicopter noise impacts on residential and other noise sensitive areas.
- f. Revise noise related zoning regulations to be consistent with the noise element.
- g. Revise the City Noise Ordinance so that it will be more effective and clear in restricting noise from stationary sources.
- h. Develop an implementation chart identifying the responsibilities of each City division involved in the review process.
- i. Provide developers and homebuilders with the requirements of the noise element.
- j. Require any activities provided by the city either directly or through its contracting to comply with the state noise standards and the city's noise element and Noise Ordinance requirements.
- k. Disseminate public information regarding City noise regulations and programs, the health effects of high noise levels, and means of mitigating such levels.
- l. Amend City Council Resolution notifying future homebuyers of properties affected by aircraft activity to provide for: (a) referencing the latest approved AICUZ study, (b) requiring that the deed includes notification of filing of a disclosure document, and (c) including any jet or helicopter altitude in the noise statement.

Standards

Mobile Sources

Land Use Noise Compatibility (Figure F-4)

This chart has been developed for identifying the compatibility of proposed projects in Irvine with future noise levels. The chart will be used in evaluating development projects including: general plan amendments, zone changes, subdivisions, and use permits.

Interior and Exterior Noise Standards (Figure F-5)

This chart identifies the interior and exterior noise levels for different land uses. The noise standards are established according to the uses, considering the state requirement (Title 25) and should be met by all projects.

Single Event Noise Standard

$L_{\max}^{(10)}$ for Typical occupancy for noise sensitive land uses within the 60 CNEL of Aircraft & Railroad	Less than	65 dBA 7 a.m.-7 p.m. 55 dBA 7 p.m.-7 a.m.
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The maximum interior noise levels of the loudest 10% of single noise events ($L_{\max}^{(10)}$) for noise sensitive land uses shall not exceed 65 dBA daytime (7 a.m. to 7 p.m.) and 55 dBA nighttime (7 p.m. to 7 a.m.) for typical occupancy.

NOTE: The samples for single event noise measurement must include representative aircraft operation.

Stationary Sources

City Noise Ordinance Standards

Related Objective Numbers

Land Use Element - A-1, A-3
Housing Element - C-5
Circulation Element - D-2, D-8
Public Facilities Element - G-1
Conservation and Open Space Element - L-3

Compliance Regulations

Federal

Noise Control Act (NCA), 1972
Federal Aid Highway Act
Federal Aviation Safety and Noise Abatement Act, 1979
Department of Housing and Urban Development (HUD) 24 CFR

Compliance Regulations (continued)

Federal Aviation Administration (FAA) 14 CFR, 1973, and part 77
Federal Highway Administration (FHA) PPM 90-2
Environmental Protection Agency (EPA) 40 CFR
Public Contract Act (Walsh Healy)
Occupational Safety and Health Act (OSHA) 1970

State

Environmental Quality Act (CEQA)
Health and Safety Code - Sections 24180-81 and 46000-80
Government Code - Section 65302
Motor Vehicle Code - Sections 23130, 27150, 27151, 27160,
27200-7, 38365, 38370
Motor Boat Noise Regulation - Section 654
Real Estate Transactions - Section 11010
Streets and Highways Code - Sections 215, 216
Administrative Code, Title 25 - Noise Insulation Standards
Uniform Building Code - Chapter 35
Noise Control Act (NCA), 1973
Noise Control Safety Orders
Penal Code - Section 415
Public Utility Code - Sections 21670-78

City

Noise Ordinance No. 136, 1975
Resolution No. 1180, 1980 - Truck Routes and Weight Restrictions
Resolution No. 1090, 1979 - Notification to Future Homebuyers
Ordinance No. 211, 1978 - Animal Regulations, Section IV.E-709
Memorandum Of Understanding (MOU), 1980
CEQA Procedures
City Zoning Ordinance

I-G

PUBLIC FACILITIES ELEMENT

The public facilities element provides a summary of information and a statement of public policy regarding public facilities. This element is an optional element permitted under California State Planning Law.

Description of Public Facilities

Public facilities can be defined as institutional responses to basic human needs, such as health, education, safety, recreation, and worship. Examples of typical public facilities include churches, hospitals, and police stations. Public facilities contribute a vital part to the quality of life for both individuals and groups in the community. Public facilities may be utilized not only to provide convenient and efficient services but also to define the visual character of the City by bringing identity to its basic districts, corridors, and focal points. The types of community facilities, their relationship to one another, and their location should be a factor of the needs and desires of the people they serve, within the technological and organizational resources available.

Two primary planning considerations of public facilities are location and support population. For the purpose of this element, the location of public facilities is considered at or above the village level, primarily at district centers. District centers, because of their varied locational attributes and component public facilities, serve both the City of Irvine and the surrounding region to varying degrees. Public facilities should be grouped above the village level into district centers to encourage joint utilization. Figure G-1 describes the recommended district center components and preliminary site size guidelines. District centers should have some degree of city-wide significance to attract residents from other districts of the City, as well as attracting residents from the surrounding region to some degree.

Public facilities require a minimum support population. Figures G-2 and G-3 each show the minimum population levels necessary for specific facilities. These figures are approximate, and should only serve as a guideline for reviewing proposals for facilities.

Existing Conditions

Public facility development in the City of Irvine has primarily occurred at the village level and at the University of California, Irvine. This includes libraries, churches, schools, community auditoriums, and similar localized facilities. City-wide facilities are not as developed but do include a temporary city hall, a junior college, and public services, such as police and fire.

Trends

As the population of the City continues to grow, the support levels necessary for major city-wide and regional facilities will be attained. With the major growth of southern Orange County, the location of Irvine within the county and the planned regional access to the City, there is anticipated to be the potential for the location of many regionally oriented facilities within the City. Cable Television capacities established within the City should offer convenience, energy savings, and significant cost reduction possibilities for many types of public facilities.

RECOMMENDED DISTRICT CENTER COMPONENT AND PRELIMINARY SITE SIZE GUIDELINES

FIGURE G-1

Facilities	Site Area Required
Hospital (250+ beds)	25-50 acres
Physical Health Clinic	5
Mental Health Clinic	5
Police/Fire Facility	5
Library	5
Museum/Cultural Center — secondary	3-5
Performing Arts — secondary	5-8
High School	40
Nature Center — ecosystems	50-100
District Commercial	12-30
District Recreation	20-50
City Services	5
City Hall	40
Performing Arts — major	25-50
Museum/Cultural Center — major	25
Junior Colleges	100
Private Colleges	75-100
Potential State/County/Federal Facilities	50
Zoo	100-200
Regional Commercial/Office	400

COMPREHENSIVE PUBLIC FACILITY GUIDELINES

FIGURE G-2

PUBLIC FACILITY STANDARDS	POPULATION		USERS	LIFE SUPPORT LINKS
	Population required to support facility			
● MIT Study				
X Fairfax County Study				
	500 - 1000	1000 - 5000	CHILDREN	WALKING DISTANCE (mins.)
	5000 - 8000	8000 - 12,000	ADOLESCENTS	
	12,000 - 20,000	20,000 - 30,000	YOUNG COUPLES	
	30,000 - 40,000	40,000 - 50,000	YOUNG SINGLES	
	50,000 - 100,000	100,000 - 250,000	MIDDLE-AGED	
	250,000 - 1,000,000	1,000,000 -	ELDERLY	
	SCALE FLEXIBILITY (◀ AND/OR ▶)			
	FREQUENCY OF USE (SCALE 1 - 5)			
	MAXIMUM			
1. INSTITUTIONAL				
a. Post Office	● 100		10	
b. Library	● 500		15	
c. Church			10	
d. Town Hall		● 5000		
e. Fire Station		● 10,000		
f. Police Station				
g. Waste Disposal Plant - advanced		●		
h. Waste Disposal Plant - conventional				
i. Dispersed Community Clinics		● 15,000		
j. Multi-Purpose Centers	25,000 X	● 30,000		
k. Utilities Office		● 50,000		
l. Airport				
m. Railway Station		●		
n. City Hall		●		
2. RECREATION I				
a. Communal Garden	● 100		5	
b. Infants' Play Space			1	
c. Children's Play Space	● 300-700		3	
d. Restaurant	● 2000		10	
e. Local Park	● 2000-4000		10	
f. Playground	● 5000		10	
g. Bar, Saloon	●		15	
h. Gymnasium, Meeting Rooms, Arts and Crafts		● 10,000	15	
i. Local Museum		●	30	
j. Art Gallery		●	30	
k. Small Craft and Boating Rental		●	30	
l. Community Theater, Auditorium		● 20,000	20	
m. Special Restaurant		●	30	
n. Coffee House, Night Club, etc.		●	20	
o. Playfield		●	15	
p. Indoor Swimming Pool	20,000	●	15	
q. Movie Theater		●	15	
r. Health Club		●	15	
s. Ice Rink	30,000	●	20	
t. Community TV Station		●	20	
3. RECREATION II				
a. Drive-In Theater		● 50,000	20	
b. Golf Course	25,000 X	●	20	
c. Golf Driving Range		●	30	
d. Tennis Club	2,000 X	●	20	
e. Swimming Beach		●	30	
f. Marina		●	30	
g. Convention Hall		● 100,000	30	
h. Football/Baseball Stadium		●	30	
i. Olympic Swimming Pool		●	20	
j. Local TV Station		● 250,000	20	
k. Regional Park		● 500,000	30	
l. Amusement Park		●	30	
m. Symphony Orchestra		● 1,000,000	30	
n. Zoo		●	30	
4. EDUCATION				
a. Day Care Center	● 500		10	
b. Children's Play Space	● 300-700			
c. Elementary School	● 1800		10	
d. Middle School	● 5000		15	
e. Library, Educ. Resources Center		●	15	
f. High School	● 9000		20	
g. Dispersed Day Care Centers		● 20,000	10	
h. Dispersed School and College Facilities		● 50,000	15	
i. Centralized Educational Complexes		●	20	
j. Community TV Station		●	20	
k. Vocational College		●	20	
l. Community College		●	30	
m. Junior College		●	30	
n. College		● 100,000		
o. University		● 500,000		
p. Graduate University		● 1,000,000		
q. Free University		● 3,000,000		

(Continued on next page)

COMPREHENSIVE PUBLIC FACILITY GUIDELINES

FIGURE G-2

(Continued)

PUBLIC FACILITY STANDARDS Population required to support facility ● MIT Study X Fairfax County Study	POPULATION	USERS		LIFE SUPPORT LINKS
	500 - 1,000 1,000 - 5,000 5,000 - 8,000 8,000 - 12,000 12,000 - 20,000 20,000 - 30,000 30,000 - 40,000 40,000 - 50,000 50,000 - 100,000 100,000 - 250,000 250,000 - 1,000,000 1,000,000 - SCALE FLEXIBILITY (◀ AND/OR ▶) FREQUENCY OF USE (SCALE 1 - 5) MAXIMUM WALKING DISTANCE (mins.) CHILDREN ADOLESCENTS YOUNG COUPLES YOUNG SINGLES MIDDLE-AGED ELDERLY FEEDER SYSTEMS LINE-HAUL TRANSIT UTIL IDOR CABLE TV POTENTIAL			
5. HEALTH				
a. 2 Chronic Disease Beds	● 1,000			
b. 4 Nursing Home Beds	● 1,000			
c. 5 Mental Hospital Beds	● 1,000			
d. Diagnosis and Treatment Center	● 10,000			
e. Welfare Agency	● 25,000			
f. 100-Bed Hospital	● 25,000			
g. Public Health Center	● 35,000			
h. 225-Bed Hospital	● 50,000			
i. Mental Health Clinic	● 50,000			
j. Rehab. Center	● 75,000			
k. 340-Bed Hospital	● 100,000			
l. 450-Bed Hospital	● 100,000			
6. EMPLOYMENT				
a. Office Complex	● 10,000			
b. Services Complex	● 10,000			
c. Light Industry	● 10,000			
d. Local "Neighborhood" Industrial and Commercial Cooperatives	● 50,000			
e. Heavy Industry	● 100,000			
f. Industrial Park	● 100,000			
g. Dispersed Employment	● 100,000			
7. COMMERCIAL				
a. Corner Store	● 500			
b. Convenience Grocery Store	● 2,000			
c. Delicatessen and Bakery	● 3,000			
d. Drug Store	● 500			
e. Snack Bar	● 500			
f. Liquor	● 500			
g. Beauty Parlor	● 500			
h. Service Station	● 500			
i. Bank Office	● 500			
j. Hardware	● 500			
k. Barber Shop	● 500			
l. Single-Purpose Store	● 10,000			
m. Supermarket	● 10,000			
n. News and Periodicals/Stationery	● 10,000			
o. Department Store	● 20,000			
p. Local Shopping Center	● 20,000			
q. Hotel/Motel	● 150,000			
r. Regional Shopping Center	● 150,000			
8. TRANSPORTATION				
a. Private Parking	● 100			
b. Auto Service Station	● 2,000			
c. Public Parking	● 20,000			
d. Public Bus Transport	● 20,000			
e. Taxi Service	● 20,000			
f. Bus Station	● 20,000			
g. V/STOL Stop	● 50,000			
h. Train Station	● 50,000			
i. Small Gen'l Aviation Airport	● 50,000			
j. Inter-City Airport	● 50,000			

SERVICE POPULATION AND SITE SIZE GUIDELINES FOR MAJOR PUBLIC FACILITIES

FIGURE G-3

Population	Neighborhood						Hillside Village	Flatland Village	District	City	
Facility	100-200	200-500	500-1,000	1,000-2,000	2,000-5,000	5,000-10,000	10,000-20,000	20,000-50,000	50,000-100,000	100,000+	500,000
Regional Park										25 ac/1000	5 ac/1000
Zoological Garden (1,000,000 pop.)											350+ ac
Museum											
Art Gallery						1/2 ac 1/2 ac		1 acre 1 acre			
Performing Arts										Rep. Theater 500 to 1500 Seats Music Hall 4000 Seats	
Libraries							10-15,000 1 ac	40,000 2 ac			100,000 ba 5 ac
Fire Stations	5 min. response 10 min to 2 mi Service depends on value & density						1-25 pump, 75 truck 11.5 ac		8 pumps, 4 trucks 10-100,000 pop		
Police Stations	5 min. normal response 2 min. emergency response						1-37/1000 5 ac	30/2000 100,000			
Day Care			500 5 ac								
Schools				250-300 5+ ac	600-750 10 ac						
Elementary											
Intermediate	See discussion of schools in Subsystem Alternatives						180-1000 20 ac				
High School							1000 20+ ac	1800-2100 40+ ac			
City Hall Complex							2 ac				
Neighborhood Center							1 ac		10 ac		
Community Center								10,000 3+ ac	35-50,000 2 ac		
Interfaith Center					1/2500 2.5 ac			Sym, multi res, arts & crafts 2-5/1000			
Nature Centers											
Other Parks		4.5 ac/100			2.5 ac/1000 2.5 mi		2 ac/1000 20 ac	5/1000 100 ac		50 ac	
Baseball							1/6000 90 ft				
Softball					1/1000 60 ft						
Tennis					1/500 4 ft min						
Basketball			1/4 ac								
Swimming Pools								18 ac, e.g. Indiana		Olympic 5 ac	
Mental Health Hospital	15 min. service (emergency)					1 bed/4000 pop. community clinic	user supply in C.C.	chmtr. 5-10 ac 750 bed. 30-50 ac			
Physical Health Paramedics				1/1000 1250 pop			10-15 doctors 1-0-15 ac				
Ambulance Service											
Commercial Centers Neighborhood				1000 1 ac		4000 min 7 ac					
Community								35,000 min 12-30 ac		150,000 min 40 ac min	
Regional										30 ac	
Sports Stadium										30-40 ac	
Convention Center											
Transportation Public Bus System								50,000+ 9-15% 1-10 houses			
Taxi System							15,000		50,000		
Commuter Rail Stop											
Personal Rapid Transit											
Golf Course										50,000 140 ac, 18 holes	

LEGEND USER POP. FACILITY SIZE OR LESS OR GREATER

Identification of Issues

The following is a summary of major issues in the City of Irvine regarding public facilities:

1. Many different agencies and institutions, including the City, are involved in the provision of public facilities. Existing agencies from whom the City may need to purchase services are, in some cases, tied to somewhat fixed notions of facility and service standards which are more appropriate for serving older, established communities. Additionally, existing agencies are limited in the extent to which they may cooperate legally and procedurally with each other. How can the City facilitate the coordination of the various agencies and institutions involved in the provision of public facilities?
2. The availability of many County and special district services offers the City an opportunity to choose from the option of contract services or providing its own facilities. The diversity, quality, and magnitude of public facilities desired by the residents of Irvine are likely to be costly. How can the City determine priorities for funding public facilities?
3. Public facilities should reflect the desires and needs of the citizens of the City. How can citizens be encouraged to participate in the development of the City's public facilities and institutions?

Response to Issues

The public facility element goals were based on three types of research: review of existing studies, discussions with citizen members of the Public Facilities Subcommittee and Community Services Commission, and meetings with public agencies who currently, or may in the future, provide facilities and services to the City of Irvine. The definition of appropriate public facilities standards and levels of service should be viewed as an ongoing process. Thus, the standards adopted in this element form an initial point of departure. The following goals, objectives, and implementing actions have been formulated as policy responses to guide the development of public facilities.

GOAL G

PUBLIC FACILITIES ELEMENT

Provide a full range of necessary public facilities and services that are convenient to users, economical, reinforce City and community identity, and reflect the participation of citizens.

To achieve this goal, the City of Irvine has adopted the following objectives and implementing actions:

OBJECTIVE G-1

Coordinate planning and development of Irvine's public facilities and services with the private sector, University of California, Irvine, the Irvine Unified School District, Orange County and other public agencies.

Implementing Actions:

- a. Coordinate public/private capital improvements through an interrelated 5-year public/private capital improvements program that provides for the relating of public facilities to economical extensions of the master utility systems.
- b. Utilize the capital improvements program as the vehicle for determining what facilities are necessary over time in relationship to the City's financial resources.
- c. Develop joint-use/joint-power approaches to facilities with the Irvine Unified School District, University of California, Irvine and other appropriate agencies. Facilities with greatest potential for joint-use/power agreements with the school district and University of California, Irvine, include museums, libraries, theater, conference centers, extended learning facilities, and related support facilities such as parking.
- d. Evaluate periodically the City's public facility standards to refine levels of service and definitions of convenience to users and reinforcement of community identity.
- e. Develop a more detailed set of program requirements for each public facilities system which will be used in refining locational concepts, site sizes, and costs for purposes of precise plans and the City's capital programming process.
- f. Encourage the establishment of two major hospital facilities of approximately 250 beds each.
- g. Develop a detailed health care system plan for the linking of district outpatient health centers to major hospital facilities at the University of California, Irvine and at the Northern Flatlands/Santiago Hills district center.
- h. Utilize the full expertise of the University of California, Irvine and the County Health Department in developing a comprehensive health care program and set of facilities for the City.
- i. Encourage the development of group practice private medical facilities around major hospitals, at each of the district centers, and within the activity corridor. Group practice facilities should include space for a minimum of 15-20 doctors serving a population of 15,000-20,000 people.
- j. Encourage the provision of Interfaith Centers at all major and secondary district centers as well as within individual villages. Interfaith Centers consist of religious facilities for worship, education, and fellowship activities which are shared by two or more denominations or faiths.
- k. Encourage the grouping of public facilities above the village level into district centers.

- l. Provide library space at a minimum level of 5 people per square foot utilizing County services while continuing to explore future options. Future options may include development of a City library system or utilizing cable TV potentials for tie-ins to the various libraries of the University of California system. Intermediate scale facilities between the village-oriented libraries now being developed and the large-scale University of California, Irvine library, which is open to the public, at district centers are now being explored.
- m. Encourage development of a sports stadium to be developed in cooperation with and at the University of California, Irvine.
- n. Encourage the location of junior and private colleges at the various district centers.
- o. Stage development so as to assure the viability of the University District and Regional Center, with its full component of educational, cultural, health, and governmental facilities.
- p. Work with KATV-3, cable television station, the University of California, Irvine and The Irvine Company to continue exploration of the potential cost savings and innovations and improvements in services which may be possible through the utilization of cable TV.
- q. Develop a detailed program for the series of nature centers recommended at:
 - The University of California, Irvine San Joaquin Marsh (natural area related)
 - Inland and northern hill locations (natural area related)
 - City Hall (creation of 50-100 acre site of ecosystems representative of Orange County)
 - Northern Flatlands/Santiago Hills District (related to preservation of agricultural lands)
- r. Develop a detailed program for a Museum of Western History related to the City and to a systematic program of archaeological exploration of the planning area (see cultural resources element).
- s. Develop a Museum of Systematic Biology at the University Center related to San Joaquin Marsh, Upper Newport Bay, and other natural areas of the City.
- t. Provide for potential development of region-serving county, state, and federal facilities adjacent to the Irvine City Hall in the central flatlands district.
- u. Develop a specialized zoo just north of the Santa Ana Freeway within the district center. This zoo would relate to the City's Museum of Western History at City Hall and adjacent Museum of Agriculture and Farmland Preservation. Emphasis would be on animals related to the western U.S. and to farming realizing that other types of facilities are adequate through the Lion Country Safari, Los Angeles Zoo, and the San Diego Zoo.
- v. Utilize the general plan land use plan for the purpose of sizing utility systems.
- w. Provide for the orderly provision of public facilities in relationship to residential, commercial, and industrial development in the growth control provisions of the City's zoning and subdivision ordinances.

- x. Provide community facilities for the elderly and encourage their involvement in the community. Avoid large projects for senior citizens.

OBJECTIVE G-2

Develop, as the City grows, an appropriate balance between City-provided and contracted services.

Implementing Actions:

- a. Contract fire, police, emergency ambulance, and animal control for as long as service received is adequate, sufficient community identity for Irvine is maintained, and the City is unable to afford its own programs.
- b. Create a system of City government and services with the principal seat of local government located in the most central part of the City and with decentralized City service facilities at each of the major district centers. District center facilities would increase convenience of informational and licensing services and would have small facilities, similar to the existing council chambers, for meetings between government officials and citizens. Record keeping would be centralized at the central City Hall and information dispersed by visual or hard-facsimile transmission via the cable TV network.

OBJECTIVE G-3

Encourage the participation of citizens and the pursuit of excellence in the development of the City's public facilities and institutions.

Implementing Actions:

- a. Create an awareness of the role of science and technology in the City's cultural life and environmental quality.
- b. The City shall serve as a catalyst to marshal resources from the public schools, UCI, private industry, and other sources but shall not directly attempt to finance or control this area of community life.
- c. Stimulate excellence in all the visual and performing arts.
- d. Encourage the design and development of low-cost spaces and publicly visible spaces for sales and/or cultural festival.
- e. Develop two scales of regionally-oriented Performing Arts facilities at the City Hall complex and the University Center. A 1500-seat theatre and 4000-8000 seat music hall is recommended for the City Hall complex and 500- and 2000-seat facilities for the University Center.

Standards

Public Facilities Standards

Public facilities standards for public and private facilities shall be initially developed according to three figures:

Figure G-1, Service Population and Site Size Requirements for Major Public Facilities.

Figure G-2, Comprehensive Facilities Standards

Figure G-3, Recommended District Center Components and Preliminary Site Size Guidelines

Group practice facilities should include space for a minimum of 15-20 doctors serving a population of 15,000-20,000 people.

Public School Site Selection

Public school site selection shall be evaluated on the following criteria:

Schools should be located on streets having parallel bicycle lanes or paths as shown on the City's adopted Master Plan of Bikeways.

Discourage the development of elementary school facilities in close proximity to commercial sites.

Foot paths and inter-village walkways should act as organizing spines and bike paths to connect primary schools.

Prohibit development of future school facilities in noise sensitive areas which are encompassed by the 65 CNEL aircraft noise contour.

Prohibit development of future school facilities in aircraft crash hazard areas as shown in the existing general plan.

All elementary and intermediate school facilities shall be centralized within residential areas when feasible.

Elementary facilities shall be located on local streets and/or local collectors so as not to require the crossing of highly traveled streets.

All proposed public school facility developments in hillside areas should be located on sites which minimize the need for grading.

Pedestrian and bicycle access to school sites from their attendance areas should be maximized.

Schools and public parks should be located adjacent to each other when feasible.

Related Objective Numbers

Land Use Element - A-1, A-2, A-3, A-5
Urban Design Element - B-2
Housing Element - C-3
Circulation Element - D-3, D-4
Scenic Highways Element - E-1
Noise Element - F-1, F-2, F-3
Waste Management Element - H-1, H-2
Safety Element - J-2
Parks and Recreation Element - K-1, K-2, K-3, K-4
Seismic Element - M-2
Cultural Resources Element - N-1, N-2

Compliance Regulations

Capital Improvement Program

I-H

WASTE MANAGEMENT ELEMENT

The waste management element provides the basis for long range waste management planning within the City's general plan planning area. This element is an optional element under California Planning Law.

Description of Waste Management

Waste management can be described as an efficient system for the collection and disposal of waste products generated by households, industry, and commercial enterprises. Wastes can be liquid and solid, hazardous and non-hazardous.

The collection and disposal components of waste management are further described as follows:

1. Collection

Solid waste collection is usually accomplished by picking up refuse at the sources via collection vehicles. Refuse can be collected in mass, or refuse can be sorted for separate collection of garbage and recyclable materials.

Liquid, non-hazardous wastes are usually collected through a sewer system. Liquid, hazardous wastes are either treated at the waste source to neutralize hazardous components and then placed in the sewer system, or non-treated hazardous wastes are collected in collection vehicles for ultimate disposal.

Transfer stations can be utilized to supplement collection of either solid wastes or hazardous liquid wastes. Transfer stations are used if the haul distances of the collection vehicles from waste source to waste disposal site are great enough to economically justify transfer of wastes from the smaller collection vehicles to the larger transfer vehicles.

2. Disposal

Solid wastes can be disposed of in several ways. The following describes some disposal options:

- a. Sanitary landfill - in this disposal method, unsorted solid wastes are placed, usually in a canyon, and then covered daily with soil to prevent odors from escaping or water from saturating the filled material;
- b. Recycling - reusable solid wastes, such as aluminum, glass, or steel can be removed from the waste stream and disposed of at recycling centers for their eventual reuse;
- c. Waste-to-energy facilities - refuse can be disposed of at a waste-to-energy facility where waste is incinerated to produce heat for either steam production or electrical generation;

- d. Composting - biodegradable wastes such as tree trimmings, grass, or kitchen wastes can be composted to produce a humus-like product. Humus can be used either commercially for fertilizer or for land reclamation projects or for the final cover at landfills.

Liquid, non-hazardous wastes are usually treated at a waste water treatment facility with the liquid waste (effluent) being disposed of in the ocean or treated for reuse as reclaimed water. The resulting sludge can be disposed of in the following ways:

- a. Sanitary landfill - sludge can be mixed with solid wastes at a landfill and covered with a daily layer of soil.
- b. Sludge farming - sludge can also be air dried at "sludge farms," composted, and used for either commercial or land reclamation uses.
- c. Incineration - in this disposal method sludge is mixed with either solid wastes or other combustible material to be incinerated. The resulting heat can be used to produce steam for either commercial use or electrical generation.

Liquid, hazardous wastes are either treated on-site to neutralize hazardous materials or disposed of at a Class I waste site (a landfill which has been approved for receiving hazardous materials). Other disposal methods are currently being analyzed but none are available yet.

Existing Conditions

Residential, commercial, and industrial solid waste is presently collected by private firms, with residential collections franchised by the City. The waste collected is transported directly to the Coyote Canyon Landfill. This facility is located south of Bonita Canyon Road in the southern portion of the planning area and is operated by the County of Orange. The County also operates Santiago Canyon Landfill located just beyond the northern boundary of the planning area. While no solid waste transfer stations exist within the planning area, a small commercial paper recycling firm operates within the Irvine Business Complex.

The existing wastewater system for Irvine Ranch Water District collects wastewater within the planning area. It is then treated at the Michelson Reclamation Plant. The plant was constructed in 1966 and expanded in 1976 to its present capacity of 7.0 million gallons per day (mgd). All treatment effluent from the plant is pumped to Rattlesnake Reservoir for use in agricultural and landscape irrigation.

Hazardous wastes are currently disposed of at Class I landfill sites. No sites exist in Orange County and therefore materials must be transported to the BKK landfill in Covina or to sites in Santa Barbara or Bakersfield.

Trends

Waste generation rates can be expected to rise over time. Compounding this will be a rise in the population which, added to the increased rates, will cause a marked increase over current levels of waste being generated.

In contrast to the increase in wastes is the anticipated closure of the Santiago Canyon Landfill and the Coyote Canyon Landfill in the next ten (10) years. Replacement of their facilities with some form of waste disposal option, at a time when public awareness of waste disposal environmental effects is just emerging, will perhaps be the most critical issue of waste management in the following years. It can be anticipated that alternatives to sanitary landfills will emerge as viable options as the economics of landfills becomes increasingly prohibitive, both in terms of land and haul costs, as well as, costs associated with environmental degradation.

Another trend that can be expected in the coming years is a shift from conventional handling of liquid, hazardous wastes and sludge disposal to other alternatives more responsive to the environmental and economic impacts of disposal. It can also be expected that the County's role in providing waste disposal sites will be minimized as the private sector assumes responsibility for providing waste disposal facilities. This shift in roles will increase the responsibility of the City to review and control waste facility sites, so as to minimize potential adverse impacts on the City.

Identification of Issues

1. Solid waste facility siting can be very controversial and sensitive to the community. What role should the City play in determining the location of a solid waste facility?
2. Collection of municipal solid wastes has traditionally been under City control and disposal of wastes has been under County control. An emerging trend, however, is to locate privately operated disposal sites in incorporated areas. What control does the City have in regulating these private enterprises?
3. Waste facilities can negatively impact surrounding land uses if not properly planned. What criteria can the City use in determining the land use compatibility of a waste facility with its neighbors?
4. Waste facilities can accept refuse or wastes from outside of the City's planning area. What is the City's responsibility in providing facilities (through land use decisions) for other cities' benefit?

Response to Issues

The City of Irvine can actively participate in the review and implementation of waste disposal facilities by monitoring actions of the County, responding to proposals, and by utilizing the following goal, objectives, and implementing actions.

GOAL H

WASTE MANAGEMENT ELEMENT

Coordinate and provide for the efficient disposal of refuse and solid waste material without deteriorating the environment of the planning area.

This goal is supported by the following objectives and implementing actions:

OBJECTIVE H-1

Cooperate in guiding the development and improvement of a solid waste disposal system within the County of Orange that will meet the needs of the City of Irvine and protect the City from damage by unplanned disposal of refuse.

Implementing Actions:

- a. Utilize the general plan as a baseline for estimating waste disposal requirements and resultant program needs.
- b. Encourage continued study of alternative waste disposal methods and technology with emphasis on re-use of solid waste material and on waste-to-energy.
- c. Develop all waste disposal programs in cooperation with the engineers of both the landowners and the County.
- d. Work closely with the operator(s) of existing landfill sites to minimize deleterious effects on surrounding land uses including possible impacts generated by rodent and insect populations, odors, and ground water conditions.
- e. Develop detailed implementation studies regarding the need and timing, for transfer station(s) within the planning area.
- f. Explore the possibility for a system of solid waste management that will facilitate recycling waste products and the possible generation of fuel at either the city-wide, district, village, or individual home scale.
- g. Continue to monitor the feasibility of providing solid waste collection as a City service.
- h. Explore the possibility for a system of solid waste collection that will facilitate recycling waste products at a city-wide scale.

OBJECTIVE H-2

Control the siting of waste disposal facilities so that they will have minimum impact on adjacent or existing planned land uses.

Implementing Actions:

- a. Utilize the compatibility matrix and rating chart shown as Figures H-1 and H-2 in reviewing proposed solid waste disposal or transfer station sites.
- b. Coordinate with the County of Orange as early as possible in the planning of waste facilities within the Irvine planning area.
- c. Pursue citizen input early in the planning process in order to identify community concerns regarding the location of a waste facility within the planning area.
- d. Review waste facility proposals in terms of costs and benefits to the City of Irvine. Particular attention should be paid to large scale facilities where the bulk of wastes is generated outside of the City's planning area.
- e. Landfills shall be operated at levels that at least meet State minimum standards.
- f. The landfill operator shall utilize best available technology (BAT) as part of their landfill operations.
- g. Landfills shall be operated in such a manner to minimize adverse environmental impacts.

FIGURE H-1

LAND USE COMPATIBILITY MATRIX

FACTOR	FACTOR WEIGHT	(IMPACT RATING - MITIGATION POTENTIAL)	WEIGHTED VALUE	NOTES
Proximity to sensitive uses	10 existing uses 8 planned uses			Score of 45 or higher will exclude potential site from future consideration
Access through sensitive use areas	8 existing uses 6 planned uses			
Relation to major arterials	6			
Size of facility	5		0	
Expected lifetime	5		0	
After use potential	3			use for review of landfills only
Waste generation area	2		0	

How to use this matrix:

1) multiply factor weight and the sum of impact rating minus mitigation potential to figure weighted value. 2) add

weighted values to figure total 3) compare total with the land use compatibility rating chart

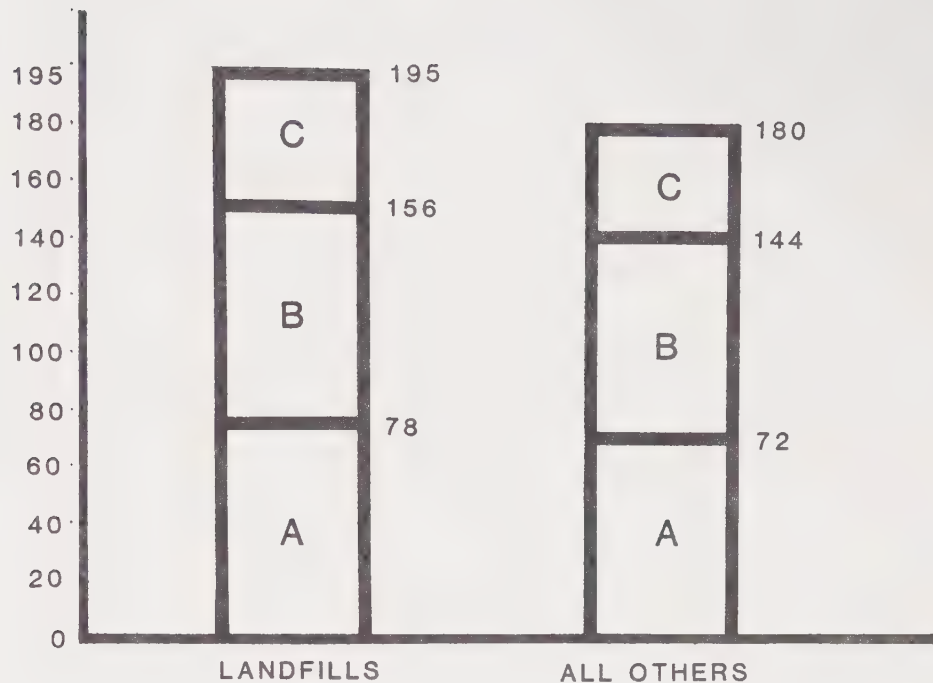
TOTAL

min. 12 max. 195 landfills

min. 12 max. 180 all others

LAND USE COMPATIBILITY RATING CHART

FIGURE H-2



- A. Acceptable: no significant impacts on adjacent uses.
- B. Acceptable with conditions:
Proposals in this category will have some significant impacts on the City of Irvine. Approval of sites should be contingent on circumstances that would add benefits to the city to offset some of the impacts. The higher rating indicates the more severe the impacts, therefore, benefits should also rise proportionately.
- C. Not acceptable: significant impacts on adjacent uses. Site should be removed from further consideration.

LAND USE COMPATIBILITY

MATRIX

- I. Proximity to Sensitive Uses: The City of Irvine considers residential, schools, public institutions and unique open space areas, both existing and planned, to be sensitive uses for any solid waste facility. Proximity to commercial uses is usually unacceptable for a waste to energy facility, except when design considerations are accounted for. Proximity to industrial uses for a transfer station is normally acceptable. Commercial and industrial uses are not acceptable near a landfill site.

- A. Impact Rating: When considering a solid waste facility's impact on sensitive uses, the following items should be considered. Will the facility subject large concentrations of people to noise, dust, odors, vectors or view of the facility?

0	=	no impact
1,2	=	minimal impact
3,4	=	nuisance
5	=	significant impact

- B. Mitigation Potential: A facility can best be mitigated by distance from sensitive uses; however, other considerations such as prevailing wind conditions or screening by landforms could be used to assess the mitigation potential.

0	=	no mitigation potential
1,2	=	minimal potential
3,4	=	significant potential
5	=	all impacts completely mitigated

- II. Access Through Sensitive Use Areas*: Access routes through any residential areas are unacceptable to the City of Irvine. Care should be taken to minimize access along routes where schools, hospitals and other public institutions are located. For a transfer station, access routes as well as egress routes should be analyzed. Industrial areas are normally acceptable as an access/egress route for a transfer station or waste to energy facility. Commercial areas are normally not acceptable for access to any facility.

- A. Impact Rating: When assessing an access route, care should be taken to consider not only uses adjacent to the route but also the number of vehicles proposed, impacts of noise and litter and visibility of trucks to uses.

0	=	no impact
1,2	=	minimal impact
3,4	=	nuisance
5	=	significant impact

*both existing and planned

- B. Mitigation Potential: The best mitigation would be relocation of the access route through a non-sensitive area (i.e., open space areas with no scenic value), but consideration should also be given to screening of access routes(s).

0	=	no mitigation potential
1,2	=	minimal potential
3,4	=	significant potential
5	=	all impacts completely mitigated

- III. Relation to Major Arterials: Waste facilities should be located near major arterials so that traffic impacts are minimized. In addition, major arterials are generally built for heavy vehicular and truck traffic. The addition of collection vehicles then would not be unexpected.

- A. Impact Rating: Items to consider when reviewing a facility's proximity to arterials are the arterials' ability to handle additional traffic, their structural ability to handle daily heavy loads, and the pedestrian/vehicle conflict potential.

0	=	adequate arterials available, no impact to circulation
1,2	=	adequate arterials available, some impact to circulation but minor
3,4	=	limited arterials, major traffic impacts
5	=	no arterials nearby for use

- B. Mitigation Potential: Possible mitigation measures would be street improvements such as widenings or signalization of intersections. Special consideration should be given to proposals that reduce traffic congestion or conflict.

0	=	no mitigation potential
1,2	=	minimal potential
3,4	=	significant potential
5	=	all impacts completely mitigated

- IV. Size of Facility: Waste facilities can range from small local facilities to large scale facilities which serve a large portion of the region. Size of the facility is usually indicative of the impacts a facility will have on surrounding land uses in terms of noise, odors, traffic and visual intrusion.

- A. Impact Rating: When considering the size of a facility, acreage as well as capacity should be reviewed to determine its impact rating. Whichever factor presents the greatest impact shall be used.

0	=	not applicable
1,2	=	5 acres or less; less than 100 tons per day (TPD) accepted
3,4	=	20 acres or less; less than 1,000 TPD accepted
5	=	21 or more acres; over 1,000 TPD accepted

B. Mitigation Potential: Not applicable, assigned a "0".

V. Expected Lifetime: Facilities which have the potential for long term operation will have long term impacts on land use planning in adjacent areas. Given the potential for land use implications, the City considers a long lifetime to be a significant impact on adjacent properties.

A. Impact Rating: Facilities shall be rated as follows:

0	=	not applicable
1	=	less than 5 years
2	=	6-10 years
3	=	11-20 years
4	=	21-25 years
5	=	25 or more years

B. Mitigation Potential: Not applicable, assigned a "0".

VI. After Use Potential (Landfills Only): The City of Irvine considers it important for landfill sites to be developed so their after use potential can be maximized. Landfills which are poorly developed or restrict an effective after use are not acceptable to the City.

A. Impact Rating: When reviewing a landfill's after use potential, care should be given to determining the extent of natural habitat/scenery destruction, relationship with adjacent uses, and compatibility with the City's General Plan land use map.

0	=	significant potential
1,2	=	significant potential but there will be some cost to natural habitat
3,4	=	limited potential
5	=	no potential

B. Mitigation Potential: Landfills can be developed which mitigate destruction to large areas of wildlife or the natural scenery. Other items to consider are the landfill's grading plan which can maximize after use, contouring to blend in the after use with adjacent uses and compatibility with the after use and adjacent open space areas.

0	=	no mitigation potential
1,2	=	minimal potential
3,4	=	significant potential
5	=	all impacts or restrictions to after use mitigated

VII. Waste Generation Area: The City of Irvine accepts responsibility for wastes generated within its own planning area. However, the City is not obligated to provide a waste disposal solution for other cities or areas which have not or will not find a solution for themselves. In reviewing a facility the percentage of Irvine wastes to be accepted there shall be considered and rated.

A. Impact Rating: Facilities shall be rated as follows:

0	=	100% of waste is locally generated
1	=	85% - 99% of waste is locally generated
2	=	60% - 84% of waste is locally generated
3	=	45% - 59% of waste is locally generated
4	=	30% - 44% of waste is locally generated
5	=	less than 30% of waste is locally generated

B. Mitigation Potential: Not applicable, assigned a "0".

Standards

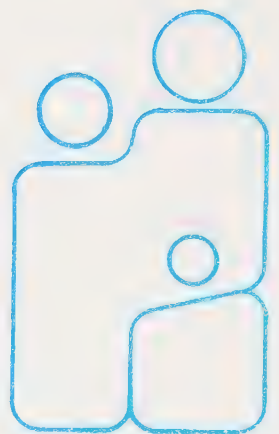
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Related Objective Numbers

Public Facilities Element - G-1, G-2

Compliance Regulations

California Administrative Code, Title 14, Division 7, Chapter 3
Orange County Solid Waste Management Plan
California Environmental Quality Act
City of Irvine CEQA Procedures



HUMAN ENVIRONMENT

II-J

SAFETY ELEMENT

The safety element provides a framework that can be utilized to introduce and formalize safety considerations into the planning and development process. A primary concern of this element is the protection of the community from aircraft operations, fires, floods and geologic hazards. The safety element is a required element of local general plans as stated in Section 65302(i) of the California Planning and Zoning Law.

Description of Safety

Community safety can be defined as City sponsored actions that can reduce the potential for loss of life, injuries, and property damage associated with natural and man-induced hazards. Safety can be further defined to describe the source of potential hazards and civic agencies responding to those hazards. The potential hazards most prevalent in the City of Irvine are from fires, floods, geologic hazards, and aircraft operations.

The seismic element of this general plan identifies seismic hazards and policies to minimize them. Both the seismic and safety elements should be considered together in the planning process for the provision of a safe environment.

1. Fires

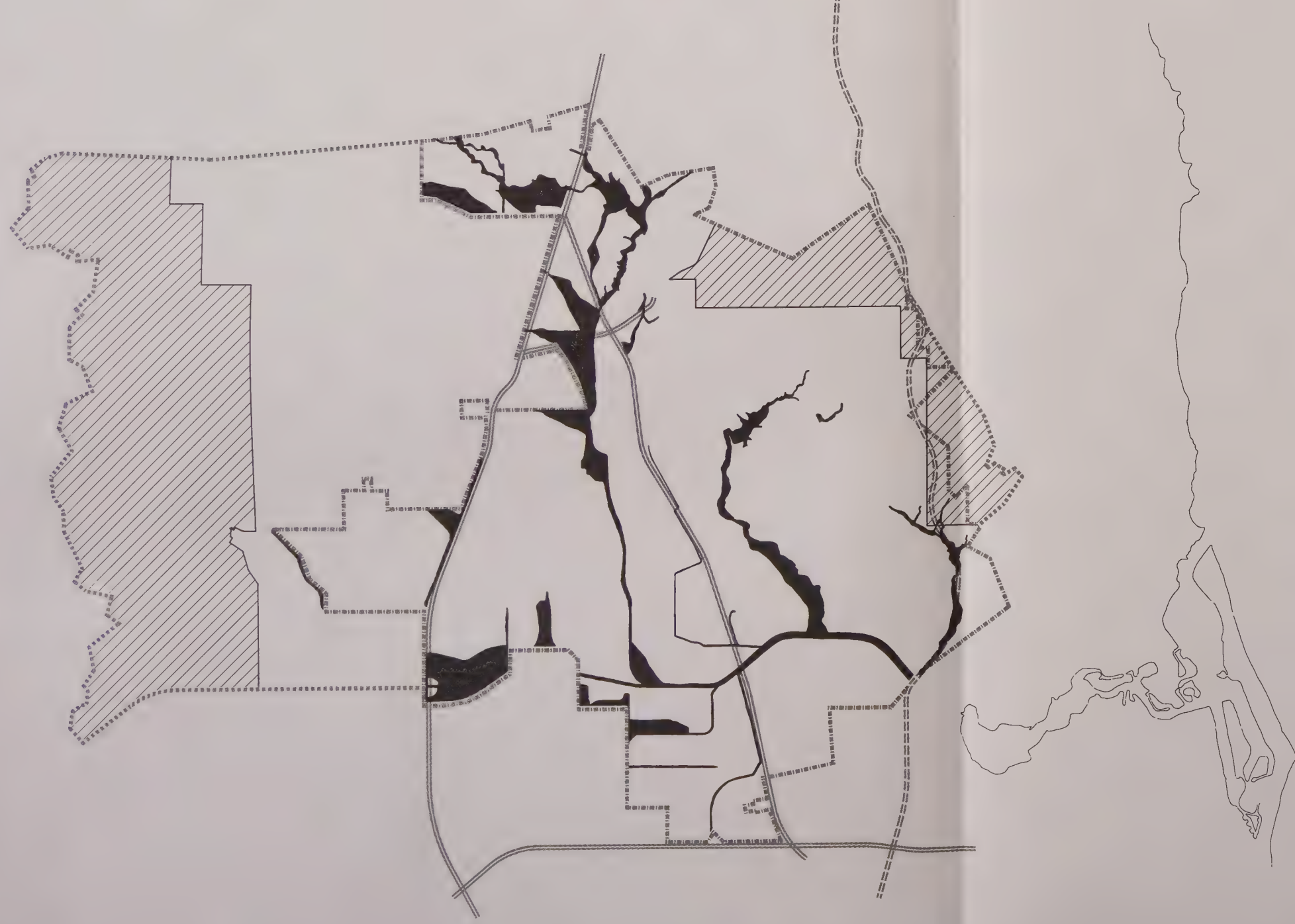
Fire hazards (Figure J-1) are evident in the study area due to large quantities of combustible vegetation, poor access to fire hazard areas, and lack of water supply for fire protection in fire hazard areas. Special fire protection considerations should also be given to industries handling hazardous materials, multi-story buildings with high occupant levels, and large built-up areas with combustible roof covering. High hazard areas are predominantly in the hilly portions of the City with volatile chapparal as the fuel source.

2. Floods

Figure J-1 shows areas subject to the theoretical 100 year flood within the planning area. The figure was based on information prepared by the U.S. Department of Housing and Urban Development (HUD). According to this information, flood waters are expected to be shallow with depths that do not exceed three to four feet even in the case of a 100 year flood. Historical documents show that damaging floods occurred in the Los Angeles Basin in 1884, 1916, 1927, 1937, 1938, and 1969. The last one included the inundation of the lowlands in the Santiago Hills, El Toro, San Joaquin Marsh, and Upper Newport Bay areas.

3. Geologic Hazards (Soils)

The U.S. Department of Agriculture maps and classifies soils with respect to their suitability for urban development, resource conservation, and agriculture. Soil limitation ratings relate to the soil's capacity to support load and resist settlement, as well as the ease of evacuation. A rating of "slight" refers to soil properties which are favorable for construction. A "moderate" rating means that some soil properties are unfavorable, but that they can be overcome or modified by special planning and design. Soils identified as having "severe" limitations are those so unfavorable and so difficult to correct as to require major soil reclamation or



FIRE AND FLOOD HAZARD AREAS

▨ HIGH FIRE SEVERITY RATING

■ FLOOD HAZARD AREAS

..... SPHERE OF INFLUENCE - - - - - CITY BOUNDARY

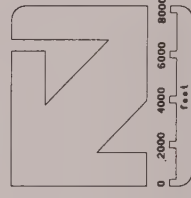
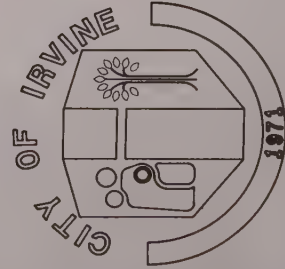


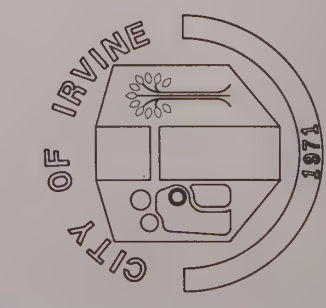
FIG. J-1

FIG. J-1



AIRCRAFT CRASH HAZARD ZONES

- "A" EXTREME CRASH HAZARD
- "B" CONSIDERABLE CRASH HAZARD
- "C" LIMITED CRASH HAZARD
- "D" MINIMAL CRASH HAZARD
- SCHOOL CONSTRUCTION LIMIT



SPHERE OF INFLUENCE CITY BOUNDARY

FIG. J-2

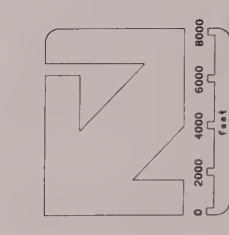


FIG. J-2

special design. It should be noted that these soil limitations are general. They are intended to be used as a planning aid which identifies areas requiring specific site investigations to confirm the existing conditions and recommend corrective measures necessary to reduce potential hazards. The most recent survey of the Irvine planning area was conducted in 1975.

4. Aircraft Operations

The risk of aircraft crashes is an important consideration in planning around airports, particularly military bases where pilots are trained to use high performance jet aircraft. The size of the area affected by a crash and the ability to predict its impact and location varies with the type of aircraft. Most problems are expected to occur within normal flight patterns. However, a disabled aircraft may choose to take a straight-in approach to any runway.

Existing Conditions

The two primary civic agencies which respond to safety hazards are police and fire departments. The City of Irvine maintains a central police facility in the Irvine Business Complex. Booking and detention facilities are provided under an agreement with the City of Newport Beach and the County of Orange. Through the use of existing facilities, the Orange County Fire Department and State Forestry Service provide cooperative fire and rescue service for the significant fire hazard areas depicted in Figure J-1. The City also has a contract with the Orange County Fire Department for fire fighting services within the City.

Additionally, for developed or developing areas, the City has minimized potential hazards by requiring appropriate mitigation measures. The following is a brief synopsis of those measures for each hazard.

1. Fire

The County Fire Department can provide a five minute response time within most areas of the City. For residential development which is outside of a 7 minute response zone, residences are required to have 1) smoke detectors, 2) automatic fire sprinkler systems, 3) fire retardant building materials, and 4) traffic signals which can be pre-empted to ease access by fire trucks or assist with evacuation. These requirements are imposed as part of the development review process. The City's building code requires smoke detectors in all new residential developments.

2. Flood

Currently developed areas within the City are not subject to the 100 year flood as drainage measures, such as channels, drains, etc., have been put in place where structures are threatened.

3. Soils

Like floods, structures are not threatened by geologic problems due to the fact that corrective engineering techniques are effected during build-out.

4. Aircraft Operations

Three airports are located adjacent to the City of Irvine. John Wayne Airport is along the City's western border just south and west of the Irvine Business Complex. It provides commercial jet service and has a considerable amount of light aircraft traffic. MCAS Tustin is used for training helicopter pilots. MCAS El Toro, located northwest of Irvine Industrial Complex-East, has a full-size airfield for training jet fighter pilots. Figure J-2 shows crash aircraft hazard zones for El Toro Marine Base. These zones establish areas where the risk of a crash for a certain unit of land area is approximately four to five times as great in each successive impact zone. Thus, an acre of land in Zone A, the zone of highest crash hazard, is expected to have approximately 4 to 5 times the risk of a crash as an acre of land in Zone B, and 16 to 20 times the risk of a crash as an acre of land in Zone C. Figure J-3 shows suggested criteria for land uses in the crash hazard zones. Any final determination with respect to the establishment of land use controls should be based on more detailed studies. These studies should use actual operations as their bases.

Trends

1. Fires

The fire hazard areas are expected to remain hazardous until development encroaches in the hilly areas. As development takes place, probable partial removal of the fuel source will decrease fire potential. However, the proposed densities for the fire hazard areas are low, requiring less grading of natural terrain than higher densities. This means that while fire hazards are reduced, they will not be removed to the extent as they are in the City's flatland areas.

2. Floods

It is expected that future developments will be protected from 100 year floods by the continuation of measures which alleviate flood hazards, such as channels, retention basins, and drains.

3. Soils

Soil types will remain almost virtually unchanged over the time. It is expected that development will continue to incorporate engineering techniques to correct soil problems.

4. Aircraft Operations

It is expected that within the near future, aircraft operations will continue from the three nearby facilities. The crash hazard potential should remain constant as outlined in existing conditions unless the operations are changed. Long term impacts are hard to ascertain due to the constantly changing technology of the air industry, as well as the long term commitments of the facility operators of staying in the area.

The City is expected to provide police services in line with development. The development pattern and topography evident in Irvine might require that consideration be given

LAND USE SUITABILITY IN AIR SAFETY ZONES

FIGURE J-3

LAND USE	AIR SAFETY ZONES			
	Minimal Hazard	Limited Hazard	Considerable Hazard	Extreme Hazard
Residential-Single Family, Duplex, Mobile Homes	A	C*	D	D
Residential-Multiple Family	A	D	D	D
Transient Lodging	A	D	D	D
School Classrooms, Libraries, Churches	A	D	D	D
Hospitals, Nursing Homes	A	D	D	D
Auditoriums, Concert Halls, Music Shells	A	D	D	D
Sports Arenas, Outdoor Spectator Sports	A	D*	D*	D
Playgrounds, Neighborhood Parks	A	B	C	D
Golf Courses, Riding Stables, Water Recreation, Cemeteries	A	A	B	C
Office Buildings, Personal, Business and Professional	A	D*	D*	D*
Commercial-Retail, Movie Theaters, Restaurants	A	D	D	D
Commercial-Wholesale, Some Retail, Ind., Mfg., Utilities	A	C	D	D
Livestock Farming, Animal Breeding	A	A*	B*	C*
Agriculture (Except Livestock), Mining, Fishing	A	A	A	B
Public Right-of-Way	A	A	B	C
Extensive Natural Recreation Areas	A	A	A	A
Maximum Gross Density Recommended (Persons/Acre)	No Limit	10	2	.5
Maximum Assembly Recommended (Persons)	No Limit	100	25	10

A	Clearly Acceptable
B	Normally Acceptable
C	Normally Unacceptable
D	Clearly Unacceptable

* Some specific uses in this group may meet density criteria and be more acceptable.

SOURCE: Wilsey & Ham

to the type of patrols used. It may be necessary to modify current standards because many of Irvine's neighborhoods are designed with interior open spaces and greenbelts which make automobile patrol less effective. Furthermore, the rugged terrain in some portions of the planning area may require use of 4-wheel drive vehicles or horses to patrol them.

Identification of Issues

The following is a summary of the major safety issues in the City of Irvine:

1. The risk of aircraft crashes is an important consideration around airports. Three airports are located adjacent to the City. How can the City reduce the risk to life and property associated with aircraft operations adjacent to the City?
2. The potential for hazards can be minimized through predevelopment planning. How can the City reduce the probability of fire, non-seismic geologic, flood, and air operation hazards?
3. Despite any precautions a jurisdiction takes, natural disasters will occur. What actions can the City take to reduce the severity of hazards (i.e., reducing the loss of life and personal property) when they occur?

Response to Issues

Many potential hazards can be negated through recognition of unsafe conditions and measures to correct those conditions. In the event a disaster does occur, the City should provide the focal point for disaster preparedness. The following goal, objectives and implementing actions have been formulated in response to the issues.

GOAL J

SAFETY ELEMENT

Minimize the danger to life and property from man-made and natural hazards, including fire hazards, flood hazards, non-seismic geologic hazards, and air operations hazards.

To achieve this goal, the City of Irvine has adopted the following objectives and implementing actions:

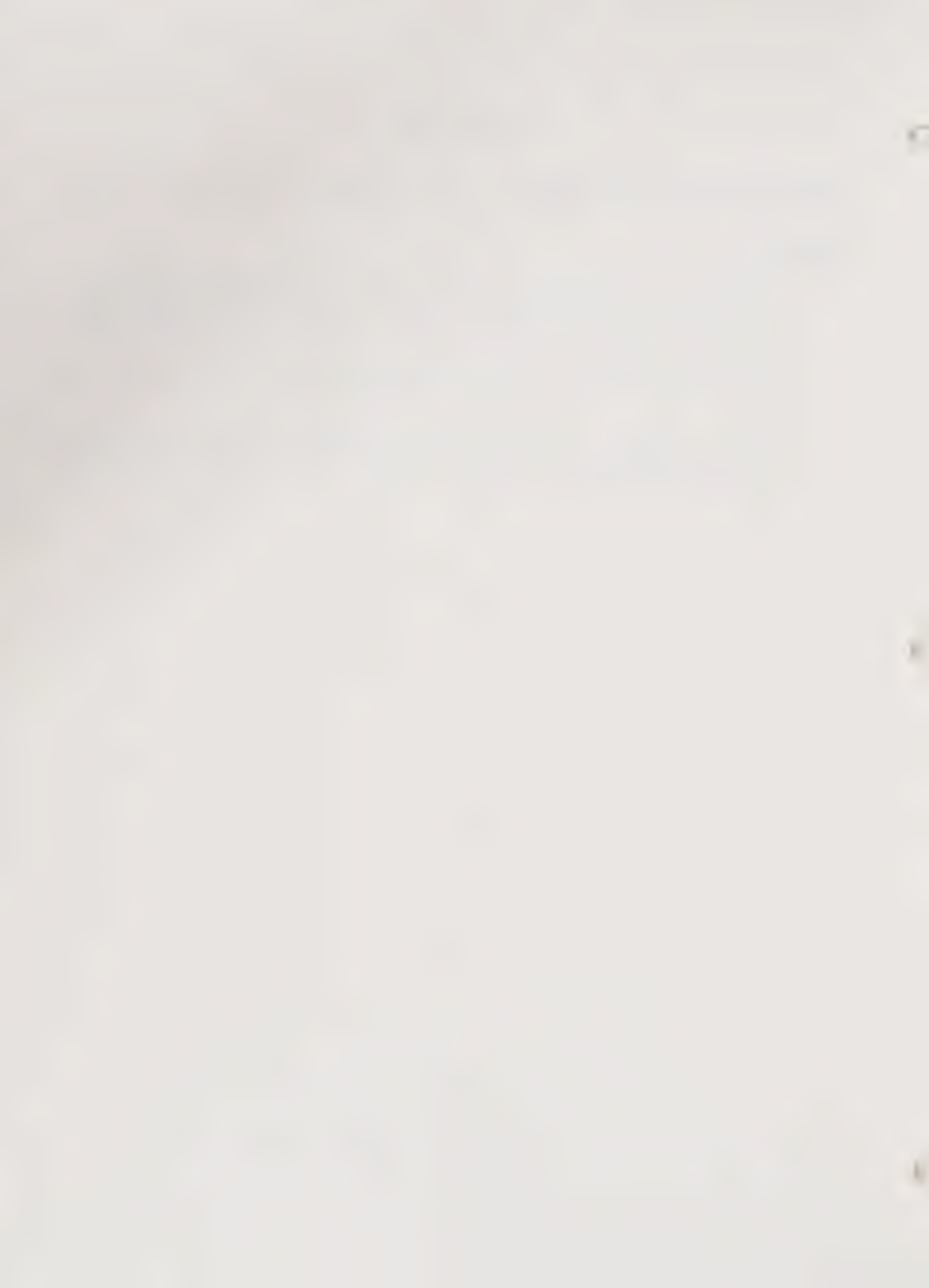


OBJECTIVE J-1

Identify actions that the City, in concert with other jurisdictions, must take to reduce the probability of hazard occurrence.

Implementing Actions:

- a. Through land use controls regulate the type and intensity of development in areas associated with potential land use and air operational hazards. To help facilitate this implementing action, Figures J-1 and J-2 should be used as guidelines in determining locations of hazardous areas.
- b. Utilize zoning provisions to require geologic testing and structural modification in areas with slope instability and landslide possibility.
- c. Establish criteria for land development in hillside areas with emphasis on fire retardant materials, minimization of exposure risk to wildfire and adjacent structure fires, access for fire fighting personnel and equipment, and removal of combustible vegetation.



OBJECTIVE J-2

Identify actions that the City, in conjunction with other jurisdictions, must take to reduce the severity of hazards should they occur.

Implementing Actions:

- a. Through the capital budget, operating budget, and residential development approvals, ensure that developments will be properly served by police and fire services.
- b. Through the zoning and subdivision ordinances ensure that each development will have adequate emergency access.
- c. Through the City's Public Safety Department develop a detailed disaster response time.
- d. Through the Zoning Ordinance, phase the timing of development in relation to the City's ability to provide police and fire service.
- e. Establish a procedures to coordinate the development of a City disaster response plan with the Orange County Office of Emergency Services. Specific measures to be included in the disaster response plan include the following:
 - Identification of areas with high risk for priority response.
 - Identification of alternative emergency systems in the local area (potable water, water for fire protection, water delivery systems, communication, security, waste collection, emergency power for critical facilities).
 - Identification of protected structures for use as command centers, and inform appropriate agencies (Red Cross, National Guard, Sheriff, Civil Defense Organization, etc.) of location, facilities, and functions.
 - Identification of protected structures for emergency shelter, food, and medical care and inform appropriate agencies of location and function of facilities.
 - Assignment of disaster response responsibilities to all public employees, with reporting locations, notification system, etc. Coordinate such assignments with appropriate private organizations (radio amateurs, scouts, hospitals, etc.)
 - Coordination of search and rescue parties/procedures with fire department and sheriff.
 - Establishment of a clearing-house for casualty and missing persons information.
 - Establishment of a checklist for damage and casualty assessment with attention to locating hardest hit areas which may not be able to communicate to outside, and getting casualty and damage information to appropriate outside agencies through alternative means of communication.
 - Identification of evacuation routes at the regional scale.
 - Utilization of helicopters and fixed wing aircraft for disaster reconnaissance and communication; and preparing plans to evacuate hospitals, schools, convalescent facilities, and other structures with dependent populations.
 - Necessary expansion of routine emergency services.
 - Emergency communication system.
 - Special provisions for medical care.
 - Mutual aid plans with neighboring jurisdictions.



- f. Develop, over a long period of time, a set of disaster mitigation criteria for each major natural phenomenon.



OBJECTIVE J-3

Qualify for the national flood and other disaster insurance programs.

Implementing Actions:

- a. Support legislation and tax measures which tie disaster insurance and tax rates to hazard reduction measures.
- b. Require pre-wired cable TV connections for fire and police alarms in all new residential structures and other appropriate buildings.

Standards

(Reserved)

Related Objective Numbers

Land Use Element - A-1

Urban Design Element - B-4

Housing Element - C-2, C-3, C-5

Circulation Element - D-8

Public Facilities Element - G-1, G-2

Conservation and Open Space Element - L-1, L-3, L-4

Seismic Element - M-1, M-2

Compliance Regulations

City of Irvine Building Code

City of Irvine Subdivision Ordinance

City of Irvine Zoning Ordinance

California Environmental Quality Act and Implementing Regulations

Memorandum of Understanding between the City and USMC

FAA, part 77 regulations

City of Irvine Security Code

Airport Environs Land Use Plan, Orange County

PARKS AND RECREATION ELEMENT

The purpose of this element is to establish guidelines for the orderly development of Irvine's park system and recreation facilities. State planning legislation does not require a general plan element for parks and recreation, but provides for discussion of this subject in two other mandated elements, namely land use and open space. However, recognizing the important functions served by parks and recreation facilities in a growing urban environment, the City of Irvine has chosen to expand this subject into a separate element. This approach is permitted by Section 65303 of the California Government Code.

Description of Parks

A park is defined as any public or private land set aside for aesthetic, educational, recreational, or cultural use. It is related to open space, which is all land and water in an urban area not covered by buildings.

The City of Irvine's public park system is divided between two park categories: neighborhood parks and community parks. In addition, Irvine has private neighborhood (homeowner association) parks and regional parks.

A neighborhood park, whether public or private, is intended to serve local residents and should be within walking distance of the households it serves. Beyond this point, public and private neighborhood parks differ in specific function and design.

A public neighborhood park ranges in size from 5 to 12 acres, excluding off-street trails, greenbelts, and school lands. When possible, neighborhood parks adjoin public elementary schools and serve a minimum of 2,500 people each. Primary uses include passive open space, active play areas for children, including tot lots, playground apparatus, and picnic areas.

Private neighborhood parks in Irvine are typically smaller than public neighborhood parks. With a few exceptions private parks range in size from .3 to 5 acres, excluding greenbelts, trails, windows, setbacks, or village edges. Generally, private parks are placed in the interior of residential developments or condominium complexes rather than on public streets. They are designed to exclusively serve residents belonging to the specific association, and are more intensely developed and adult oriented. Primary uses include swimming pools, spas, club houses, and tennis courts. These facilities are sometimes found in addition to passive open space and active play areas, as found in public neighborhood parks.

A community park is designed to serve more than one village. These parks vary in size but are generally 20 acres excluding greenbelts, trails, and adjoining school lands. A community park may provide joint-use with a secondary school, through siting and design features. These parks are planned to meet the needs of all age groups by providing a wide variety of land uses, including swimming pools, playing fields for team sports, recreation centers, cultural centers, picnic areas, gardens, and similar uses.

Regional parks are large open space and recreational facilities provided either partially or wholly by the County of Orange. Regional parks are a component of the City's

conservation and open space plan. They include such uses as golf courses, lakes, hiking trails, athletic sports fields, picnic facilities, campgrounds, swimming pools, and wildlife refuges. Though located within the City, either presently or in the future, regional parks serve the needs of persons throughout Orange County, as well as Irvine citizens.

Recreation and leisure opportunities are available to the residents of Irvine because of its location in the south Orange County region. Public beaches, local mountains, and deserts are all within short traveling distance from Irvine. Southern California is also the location of several world famous amusement parks, such as Disneyland and Knott's Berry Farm. Movie theatres, arcades, bowling alleys, skating rinks and miniature golf courses are just a few of the many recreational options available in the City and the region.

Existing Conditions

Historically, the City of Irvine has acquired its parkland and recreational facilities as follows: neighborhood parks have been dedicated by developers at 4.5 acres per 1,000 population or fees in-lieu and community parks have been purchased through a park bond at 2.0 acres per 1,000 population. In addition, the City has given park dedication credit for private parks and various recreational facilities.

The amount of park land required for dedication is established at the time of subdivision approval through the implementation of the Irvine Local Park Code. The Local Park Code establishes park credit standards and provides for any exceptions for dedication. For example, if a developer proposes a project for low and moderate income households, he may apply for a "park modification" which has provided for a reduction in dedication to 2.0 acres per 1,000 population or fees in-lieu. This dedication policy exception is also contained in the City of Irvine Housing Element. The park modification process is among several incentives used by the City to encourage developers to construct lower income dwelling units.

This system of park dedication and purchase has provided the City with the following inventory of parks. Irvine has 18 public neighborhood parks with an average size of 3.6 acres. There are approximately 90 private neighborhood parks with an average size of 2.3 acres. Irvine also has 7 community parks and 2 additional park sites which are not yet developed. The most common size of a community park is 20 acres.

Mason Regional Park is currently being expanded by the County to provide recreational and open space facilities for the general public. When fully developed, facilities may include a golf course, lakes, hiking trails, athletic sports fields, picnic facilities, and swimming pools.

Since the inception of the City's original method of park dedication under the Quimby Act, several legislative and economic trends have evolved. In September, 1982, the State Legislature passed Senate Bill 1785 which limits the amount of park land or fees in-lieu which Irvine may require in developer dedication to 5.0 acres per 1,000 population. Although this is .5 acre more than the original dedication requirements, it is 1.5 acres less than the original total park provision standard. In order to maintain that standard, the City would have to purchase 1.5 acres per 1,000 population. As a result of Proposition 13, however, the City no longer receives past levels of property tax revenues, which were important for park improvements and maintenance. Moreover, it is more difficult to gain voter approval of bonds, which had previously been used for the purchase and improvement of community park land. Therefore, it does not appear likely that the City can purchase the extra 1.5 acres per 1,000 population.

Inflation in land costs has also affected the type of parks and facilities offered for dedication. In the past, developers have satisfied their dedication requirements by paying in full with land. In addition, they have often provided extra amenities such as greenbelts, design features, tennis courts, and swimming pools for which they did not apply for park credit. However, the recent trend has been to pay in facilities and fees rather than land alone, requesting that extraordinary amenities and design features be credited toward parks requirements. This trend has resulted in a reduction in actual park land below the established standard.

Finally, due to inflation and the reduction in tax revenue, the City has experienced sharp increases in park and recreation maintenance costs and the lack of adequate maintenance funds. Given present revenue levels, the City may find it difficult to continue park maintenance at current performance levels.

Trends

Irvine's population make-up has changed considerably since the City's original General Plan was adopted in 1973. The size of the average Irvine household has decreased from 3.44 persons to 2.66 persons in 1982. There are fewer young children and an increase in the number of citizens 65 years and older. It is expected that the trend towards smaller families and the increase in the senior population will continue. As time passes, Irvine, like many older communities, will go through a series of "life cycles." For example, a neighborhood which now has primarily families with young children may evolve to one with mature adults whose children have grown and left home.

Just as Irvine's demographics have changed, so also have its recreation demands. Due to a decrease in the number of young children, there is less demand for playgrounds or tot lots. On the other hand, older children and adults have shared an increased interest in "team sports," such as soccer and baseball. These recreation trends, which reflect the community's life cycle, will challenge the flexibility of Irvine's existing park system. Also, due to the increasing costs of land and inflation, new housing is developed at higher densities with less open space in private yards. This will place an additional burden on public/private open space and parks.

It is expected that the current trends in City revenues will continue to affect money available for parkland acquisition, improvements, and maintenance. It is also expected that developers will continue to request that high amenity and design features be credited towards park requirements, resulting in a reduction in actual park land.

Identification of Issues

The following is a summary of the major park and recreation issues in the City of Irvine:

1. Given the constraints of less dedicated park land, decreased funds for improvements and maintenance, and less ability to purchase more land and improvements, how can the City provide a quality park system which offers variety and flexibility to meet resident's needs and demands?
2. Changing demographics in Irvine have, and will in the future, result in changing recreation needs and demands. How can the City regulate the park land and facilities to respond to changing citizen's needs over time?

3. The City has historically given park dedication credits for extra amenities and design features in development proposals. How can the City be selective in granting these credits, thus maximizing the amount of park land acquired through the dedication process?
4. The City has experienced increases in park land and recreation maintenance costs. How can the City continue park maintenance at current standards at the lowest possible cost to the City?

Response to Issues

In February, 1981, the Irvine City Council established the Open Space, Parks, and Trails Committee (OSPTC) to study the important issues facing the City's park system. After a series of meetings, the OSPTC submitted a park study report with recommendations. Following the passage of SB 1785, the Committee re-examined its recommendations and expressed its desire to reserve 2 of the 5 dedicated acres for community parks and provide 3 of the 5 dedicated acres for neighborhood parks.

After examination of alternatives for park distribution, the City concurred with the OSPTC recommendation and decided that the park system outlined in the following goal, objectives, and implementation actions provides the best response to the issues.

GOAL K

PARKS AND RECREATION ELEMENT

Provide park and recreation opportunities at a level that maximizes available funds and enables residents of all ages to utilize their leisure time in a rewarding, relaxing, and creative manner.

To achieve this goal, the City of Irvine has adopted the following objectives and implementing actions:

OBJECTIVE K-1

Provide a broad spectrum of recreational opportunities in park facilities for various functions, in various sizes, and in either public or private ownership.

Implementing Actions:

- a. Provide community parks which serve residents on a village to City-wide level.
- b. Develop community parks with facilities appropriate for citizens of various ages and interests, such as:
 - Community centers.
 - Athletic facilities.
 - Large multi-use swimming pools.
 - Picnic areas.
 - Cultural centers.
- c. Encourage the development of special areas in community parks that will enhance recreational and leisure opportunities in the City, such as the Interpretive Center in Turtle Rock Community Park and the Senior Center in Rancho San Joaquin.
- d. Provide neighborhood parks that respond to recreational needs at a local level.
- e. Provide for public and private (homeowner association) ownership and maintenance of neighborhood parks.
- f. Ensure that neighborhood parks are developed with appropriate facilities, such as tot lots, active play areas, passive open space, picnic facilities, and sports fields.
- g. Support and work with the County of Orange and the State in the development of regional and state parks.

OBJECTIVE K-2

Require developers of residential land to dedicate land or fees for parks, consistent with the Quimby Act, Subdivision Map Act, Irvine Subdivision Ordinance and general plan standards.

Implementing Actions:

- a. Require review by the Community Services Commission and approval by the Planning Commission of all land and facilities proposed for park dedication.
- b. Establish criteria for accepting proposed park facilities, such as:
 - Adaptibility of the land for park and recreation use.
 - Suitability of proposed facilities to meet the recreation needs of residents the park is to serve.
 - Responsible agency and costs of maintenance.
 - Location of the park or facilities for convenient access to housing and schools.
- c. Require that park land dedicated by developers meet minimum standards to ensure land use flexibility and the land's usefulness over time. Specific park criteria may include minimum park size, dimensions, and the types of improvements or recreation equipment which will be accepted for park credit.
- d. Prohibit park credit for subdivision design features which do not provide a recreational function, such as:
 - Village edges.
 - Landscaped village entries.
 - Expanded setbacks.
 - Meandering streams.
 - Paseos (greenbelts).
 - Eucalyptus windrows.
 - Circulation improvements such as bicycle, hiking and equestrian trails
- e. Restrict credit for private neighborhood park facilities to those facilities typically found in public neighborhood parks. Luxury facilities such as swimming pools, spas, and tennis courts will be eligible for private park credit up to a maximum of 50 percent.
- f. Allow developers of low and moderate income housing to dedicate park land at a lower standard subject to review by the Community Services Commission and approval by the Planning Commission.

OBJECTIVE K-3

Locate park and recreation facilities for safe and easy access by their intended users.

Implementing Actions:

- a. Require proposed park locations to be reviewed prior to or at the time of tentative tract approval for easy access and relationship to surrounding uses.
- b. Locate community parks adjacent to primary or secondary arterials for easy access. Siting of community parks adjacent to freeways or major arterials may be permitted but is discouraged.
- c. Locate athletic field complexes adjacent to major arterials.
- d. Locate parks adjacent to school sites when feasible.

OBJECTIVE K-4

Ensure that Irvine's park system is developed and maintained in a manner that is cost-effective and consistent with the community's ability to pay.

Implementing Actions:

- a. Purchase and improve park and recreation facilities consistent with the availability of capital improvement funds.
- b. Pursue state and federal funding sources to acquire park facilities in addition to those dedicated to the City.
- c. Pursue all possible methods to generate revenue for the maintenance of parks, such as maintenance districts, commercial leasing, and user fees.
- d. Require that all public neighborhood parks be maintained by the City.
- e. Require maintenance of all private neighborhood parks by the responsible homeowners association through a recorded agreement requiring the perpetual private ownership and maintenance of these parks.
- f. Pursue joint use agreements with the Irvine Unified School District.
- g. Initiate discussions with Orange County for joint-use park facilities located in Phase III of Mason Regional Park.
- h. Initiate discussions with the University of California, Irvine (UCI) for joint-use park facilities located on the UCI campus.
- i. Adopt guidelines to permit the leasing of public park land for use by private enterprise for commercial recreational purposes.

Standards

Park Classifications

Community Parks shall serve a minimum population of 10,000 and shall be generally twenty (20) acres in size, excluding greenbelts and school grounds.

Public Neighborhood Parks - shall serve a minimum population of 2,500 and shall be a minimum of three (3) acres in size, excluding greenbelts and school grounds.

Private Neighborhood Parks - shall serve the immediate development or specific planned community in which located and shall be a minimum of .3 acre in size.

Park Dedication

The developer of residential subdivisions shall dedicate park land, or fees in-lieu, at the rate of five (5) acres per 1,000 population, apportioned as follows:

- 2 acres - community parks
- 3 acres - neighborhood parks
 - (1 acre - public)
 - (1 acre - private)
 - (1 acre to be public or private at the discretion of the Planning Commission upon recommendation by the Community Services Commission)

In the case that a proposed subdivision contains a population of less than 3,000 the distribution of neighborhood parks shall be left to the discretion of the Planning Commission upon the recommendation of the Community Services Commission.

Park Dedication Reductions

The developer of new units affordable to households of low and moderate income may be allowed to reduce the dedication standard to 3.5 acres per 1,000 population to be distributed as follows:

- 1.5 acres - community parks
- 2.0 acres - neighborhood parks

Requests for this reduction are subject to review by the Community Services Commission and approval by the Planning Commission.

Related Objective Numbers

Urban Design Element - B-4

Housing Element - C-3, C-5

Circulation Element - D-4, D-7

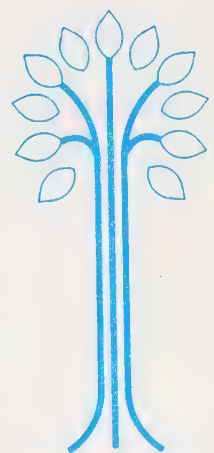
Public Facilities Element - G-1

Conservation and Open Space Element - L-1, L-2, L-4

Cultural Resources Element - N-1, N-2

Compliance Regulations

Quimby Act - Section 66477 of the State of Calif. Government Code
California Subdivision Map Act
City of Irvine Local Park Code
City of Irvine Subdivision Ordinance



NATURAL ENVIRONMENT

III-L

CONSERVATION AND OPEN SPACE ELEMENT

The conservation and open space element provides the City with the necessary direction toward the preservation and enhancement of the planning area's natural environment. This element describes the components and characteristics of a conservation and open space plan for the planning area. The conservation and open space element is a combination of two elements mandated for inclusion in local plans by California Planning and Zoning Law.

Description of Open Space and Conservation

Conservation is the wise use and management of natural resources to assure their continued availability for use, appreciation, and enjoyment. Open space provides for the preservation of natural resources, such as wildlife and their habitat, scenic vistas, unusual natural conditions, significant vegetation, agricultural uses, and productive soils. Open space also can provide a break in the urban structure, creating visual relief, diversity, texture, pattern and continuity to the overall pattern of development. Additionally, open space can be used to set aside areas that have potential exposure to hazards, such as aircraft crashes, earthquakes, earthslides, fires, floods, and erosion. Areas effected by noise from aircraft, trains or motor vehicles can also be withheld from urban development and preserved as open space.

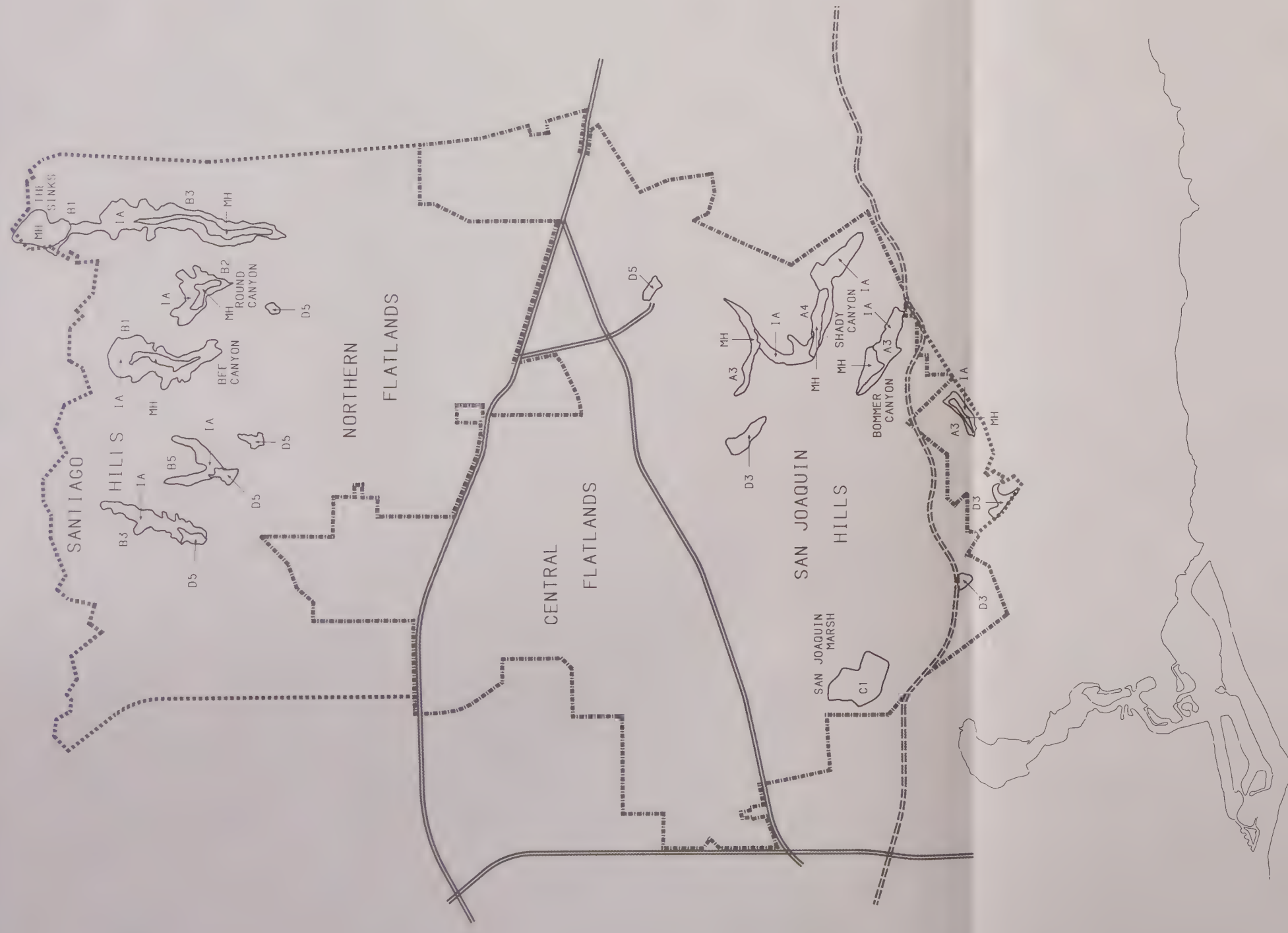
It follows from the many functions of open space, that this element is strongly related to other elements in the general plan. The conservation and open space element is important in providing input into the land use, circulation, and urban design elements; the seismic, transportation noise, and public safety elements, in turn, provide direct input to the open space element.

Existing Conditions

The Irvine area has a richness and diversity in its natural and man-made environment. The planning area is divided into four physical and functional districts: Santiago Hills, Northern Flatlands, Central Flatlands, and San Joaquin Hills (see Figure L-1.) The characteristics of these districts are discussed below.

San Joaquin and Santiago Hills - The Santiago Hills run parallel to the coastline, generally northwest to southeast. Within the planning area they vary in form, rising from flatlands to an area of relatively flat plateaus, then again to an area of uniformly steep unbuildable slopes, to rolling hilltops. The vegetation is primarily grasslands and stands of trees, with relatively little scrub type vegetation. A number of small lakes dot the hills. The San Joaquin Hills are coastal hills, of a gently rolling form with relatively flat valleys in the northwestern portion and steeper hills and valleys, with rock outcroppings in the southerly portion. The vegetation is predominately grassland and scrub with isolated stands of trees, mostly in the flat canyon bottoms.

The hills are the most prominent existing open space areas within the planning area. Because of restricted access, however, they are essentially a visual asset. Significant wildlife areas have been identified in both hill districts, specifically, Bee and Round Canyons in the Santiago Hills, and Bommer and Shady Canyons, and the San Joaquin Marsh in the San Joaquin Hills. The "Sinks," which is an area of great sandstone gorges, has both wildlife and topographic assets. Wildlife habitat areas are illustrated in Figure L-1. Vegetation is utilized as a major factor in defining wildlife habitat, as well as identifying potential linkages between open space areas.



WILDLIFE HABITAT

HABITAT LOCATIONS	DEGREES OF ECOLOGICAL SIGNIFICANCE
A - INTERIOR CANYONS	1. PRIMARY PRESERVATION INDICATED
B - FOOTHILL CANYONS	2. ENHANCEMENT - RECREATION OR EDUCATION
C - MARSHES	3. DEVELOPMENT WITH RESTRAINTS
D - RESERVOIRS	
IA - INCLUSION AREA	
MH - MAIN HABITAT	
-----	SPHERE OF INFLUENCE
-----	CITY BOUNDARY

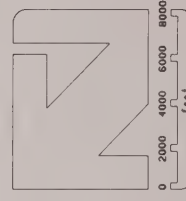
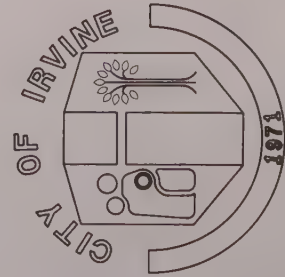


FIG. L-1

FIG. L-1

No development has taken place in the Santiago Hills. Partial development has taken place in the San Joaquin Hills district, including Turtle Rock and University Town Center. Mason Regional Park, also located in the San Joaquin Hills district, has been partially developed by the County of Orange. Development has taken place next to only one wildlife habitat area, the San Joaquin Marsh. The University of California, Irvine, however, maintains the integrity of this wildlife habitat.

Central and Northern Flatlands - The Central Flatlands is that area bounded by the two freeways; the Northern Flatlands are bounded by the Santa Ana Freeway and the Santiago Hills. The flatlands are characterized by cultivated vegetation, primarily orchards, row crops, eucalyptus, and waterways. Both the Northern and Central Flatlands are undergoing a transition from agricultural uses to a developed state. In the developed areas, the eucalyptus windrows have, where feasible, been incorporated as a part of parks, open space areas, and roadway parkways and medians.

In conformance with State law, Irvine has adopted a conservation and open space plan (Figure L-2). The three components of the plan are the open space spines, recreation and activity centers, and permanent agricultural land, as described below.

The foci for the entire open space plan are major open space spines running generally in a north to south direction, crossing the central plain, connecting the larger, more natural open space systems of the Santiago and San Joaquin Hills with the more structured system in the flatlands. The open space spines also form the basis for other general plan systems, such as circulation, public transportation, trails, and public facilities. Land uses planned for the spines include agricultural areas of orchards and field crops, nature centers, museums, and major public facilities such as City government and education centers for both public and private uses.

In the flatlands, natural determinants are much less a factor for defining the open space system than are the existing vegetation and development. The primary objective of the open space system in the flatlands is orientated around its use as a defining element in achieving an overall design character to development in those areas (see urban design element). For this reason, open space within the flatlands is designed to be an integral part of development, for example, use of the windrows as linkages between neighborhood and district parks. Running through the flatlands, and providing linkages to the hills, are two major open space spines: Peters Canyon Wash and Jeffrey.

The Peters Canyon Wash open space spine follows the Peters Canyon Wash drainage channel, from upper Newport Bay to Lake Irvine. This spine will connect such recreation and activity centers as the San Joaquin Marsh, the University of California, Irvine, and several golf course/recreational facilities in both the Santiago and San Joaquin Hills. This spine is intended as both a Citywide and regional open space facility.

The Jeffrey open space spine provides for a continuous open space edge along the eastern side of Jeffrey Road. This spine will be composed primarily of the existing southern California power line right-of-way, and will contain hiking and equestrian trails, as well as the edges of community parks. It will connect Mason Regional Park to various golf courses/recreational facilities in the Santiago Hills.

Both the Santiago and San Joaquin Hills open space spines provide major east/west open space areas, as well as connections to wildlife habitat areas. These spines will incorporate hiking and equestrian trails and will also provide unique design transitions between the surrounding residential areas. Similar vegetation types have been used as much as possible to connect major open space areas. As of yet, not one of the open space spines have been implemented.

The recreation and activity centers are public, private, or quasi-public structured or unstructured open space, such as community and regional parks, golf courses, and cemeteries. The open space plan incorporates the concept of connecting or linking major open space recreation nodes or centers.

The areas in the hills included in the conservation and open space plan are primarily responsive to the natural conditions of topography, wildlife, and vegetation. In terms of topography, the open space system is responsive to significant slope areas, natural amenities, such as significant rock outcroppings, and elements that define or enhance the overall quality of the hills.

Permanent agriculture is an essential, integral part of the open space plan. Agricultural land represents an important resource that should be preserved where practicable within the limits of a rapidly urbanizing environment. Although the primary objective is the production of basic foodstuffs, permanent agriculture also provides a contrast to surrounding urbanization, a means of retaining part of the planning area's cultural heritage, and an appropriate use for land impacted by noise from the Marine Corps Air Station (MCAS) El Toro.

Figure L-2 identifies the areas designated for the permanent preservation of agriculture within the planning area. Located in the Northern Flatlands adjacent to the Marine Corps Air Station (MCAS) El Toro, the permanent agriculture area contains Class I and Class II soils. The area is particularly suitable for the production of orchard crops, row crops, and specialty fruits and vegetables.

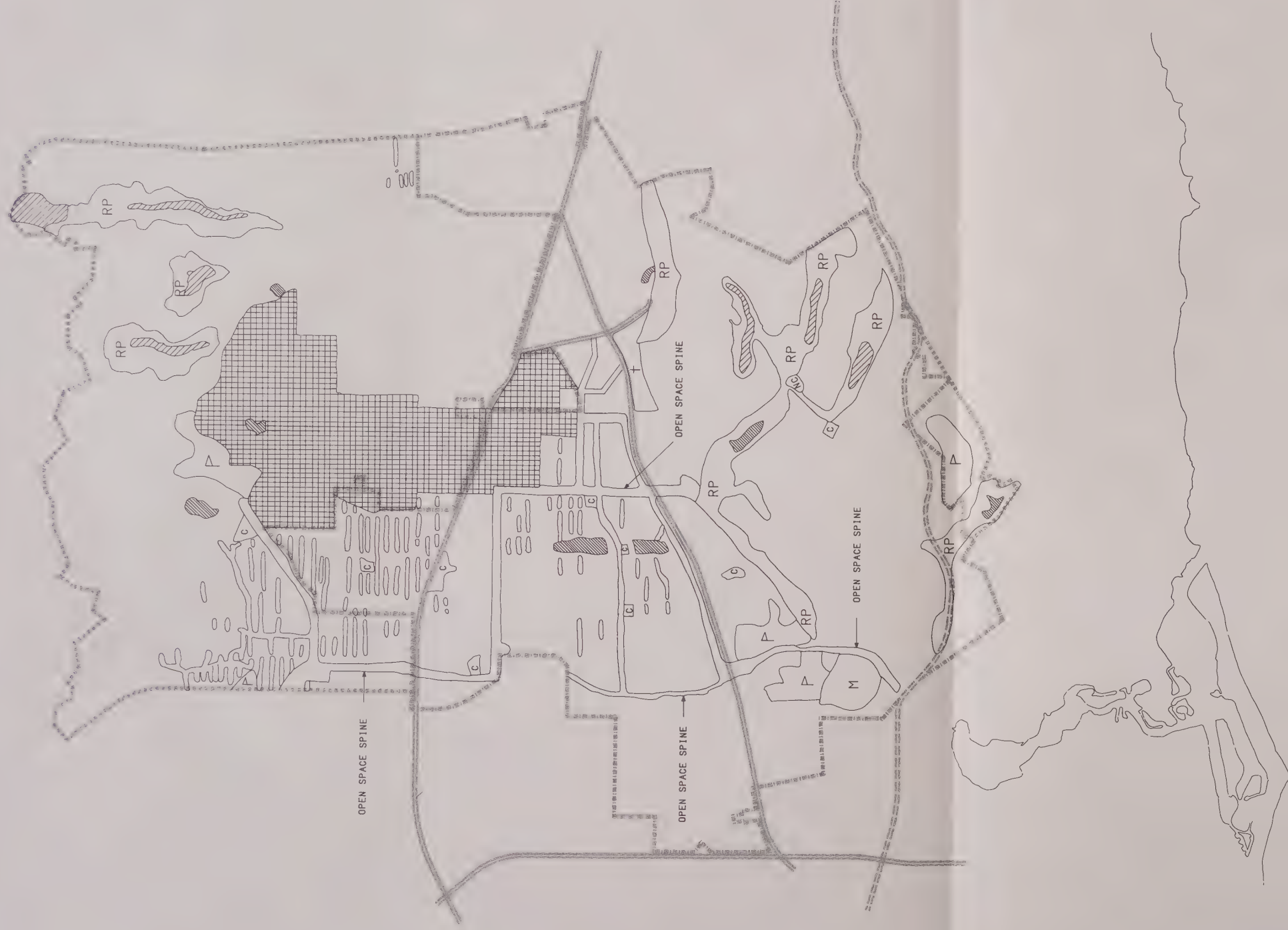
Trends

As development of the City continues, areas adjacent to designated open space will be subject to development. The value of open space areas should become more apparent as the urban development in the planning area and region progresses. At the same time, development pressures might threaten the viability of maintaining an open space system. Development of the recreation and activity centers should enhance the living quality of the built environment in the planning area.

Identification of Issues

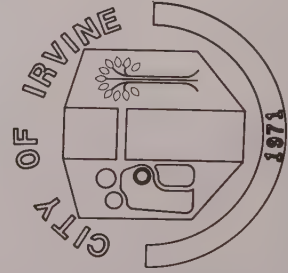
The following is a summary of the major conservation and open space issues in the planning area:

1. The planning area possesses an abundance of natural resources, such as wildlife and its habitat, ridgelines, waterways, significant rock outcroppings, and vegetation. How can these natural resources be preserved by incorporation into the open space system?
2. Permanent agriculture is an essential, integral part of the conservation and open space plan. How can agriculture be maintained as a viable land use in the planning area?
3. The open space spines are the foci for the entire open space system. How should the open space spines be developed?



CONSERVATION AND OPEN SPACE PLAN

- | | |
|------------------------------------|-----------------------|
| RECREATION AND
ACTIVITY CENTERS | - AGRICULTURE |
| A - GOLF COURSES | - WATER BODY |
| C - COMMUNITY PARKS | - WILDLIFE
HABITAT |
| RP - REGIONAL PARKS | - WINDROW |
| NC - NATURE CENTERS | |
| M - MARSH | |
| + - CEMETERY | |



SPHERE OF INFLUENCE CITY BOUNDARY

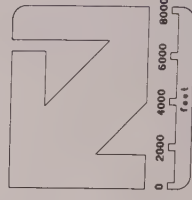


FIG. L-2

FIG. L-2

Response to Issues

A conservation and open space plan has been adopted by the City, through this general plan element, to provide the necessary direction towards the preservation and enhancement of the planning area's natural environment. The plan is consistent with and in support of the Orange County Open Space Plan. The following goal, objectives, and implementing actions have been adopted in support of the implementation of Irvine's conservation and open space plan.

GOAL L

CONSERVATION AND OPEN SPACE ELEMENT

Maintain the natural environment as a major element in the development of the City.

To achieve this goal the City of Irvine has adopted the following objectives and implementing actions:

OBJECTIVE L-1

Maintain designated natural areas in their undeveloped state.

Implementing Actions:

- a. Natural vegetation should be maintained in areas where significant stands can be identified. Particular attention shall be given to bottom canyon tree stands of California Live Oak, Emeroy Oak, Scrub Oak, Sycamore, and Holly.
- b. Windrows should remain an integral part of the open space system. Encourage the integration of east-west windrows into the design of surrounding development to be used as open space and circulation spaces connecting neighborhood and community parks with the central open space activity corridor.
- c. Landscape plantings should complement or enhance the native material and be contiguously maintained.
- d. Use native trees, shrubs, and grasses with low maintenance costs.
- e. Prohibit development and intensive human use in areas which sustain rare or endangered species, including migratory bird species and rare plant species.
- f. Where possible and practicable, the appearance and ecology of certain existing natural channels shall be studied to determine which channels, or portions thereof, conservation measures shall be applied. Channels, or portions of channels, delineated for preservation in the future shall not be altered in any way except for general maintenance to preserve their natural amenities.
- g. Require the maintenance of existing natural water sources in the design of surrounding development.
- h. Promote the development of a flood control channel to handle projected flood waters of the San Diego and Peters Canyon Washes and where practicable, that the channel be a natural swale channel with grass or other natural planting as an integral part of its design as opposed to a concrete design.
- i. Require future development to specify consideration of waterways in environmental impact reports.
- j. Pursue waterway preservation policies without prejudicing drainage, water conservation, storage, and flood control purposes.
- k. The system of natural waterways should be integrated wherever possible with any ground water recharge system in the City.
- l. Where possible, the City should develop small lakes around existing waterways.
- m. Promote the development of all lakes and reservoirs for the public use and do not allow residential development at their edge.
- n. Where modifications of the natural topography is necessary, it should result in no significant change in the general configuration of the topography.



- o. Include hiking, bicycling, and equestrian trails in the design of water courses whether they are left in a natural state or channelized. A study should be prepared to determine which water courses or portions thereof can be developed to include these trails.
- p. Adequate planting shall be accomplished to control erosion and return the appearance to essentially its original state in hillside areas.
- q. Visually significant rock outcroppings should be retained in hillside areas.
- r. Building development should be located on sites which minimize the need for grading partly moving or the removal of native plant material (except for fire trails).
- s. Any access roads or highways that must pass through hillside areas are to be designed so as to not damage their ecological and/or aesthetic characters.
- t. In their natural state the hills absorb rain runoff and help protect lowlands from flood hazards. Any proposed development should show how these features are protected.
- u. All proposed development in the hillside areas is subject to a detailed environmental impact report.
- v. Encourage the University of California, Irvine to continue its policy of development of substantial open space as a major integrating device both on campus and in the development of the inclusion areas.

OBJECTIVE L-2

Develop a program of preservation, enhancement for educational or recreational purposes, or development restraint of designated wildlife habitat.

Implementing Actions:

- a. Preserve the San Joaquin Marsh in its existing condition, and allow development to occur only as an enhancement for its role as an environmental education and research center. Study the possibility of increasing the size of the existing wildlife preserve. Areas adjacent to the existing preserve located on either side of Campus Drive may be appropriate to be designated wildlife preserve if the proposed study warrants such action.
- b. Promote the designation of the area of the Santiago Hills known as the "Sinks" as a regional wildlife preserve.
- c. No development will be allowed except that designed to enhance the habitat in designated wildlife habitat areas.
- d. Inclusion areas shown in Figure L-1 will be preserved with no development except for hiking and equestrian trails.
- e. Development that occurs at the edge of the inclusion areas will be designed in such a manner as not to substantially alter the drainage pattern of surface water runoff into the primary habitat area.
- f. Areas designated for primary preservation in Figure L-1 will be maintained without change from their existing condition and development adjacent to these areas will be the lowest density possible.
- g. Areas designated for enhancement for recreational and educational purposes will be more carefully analyzed and a plan for their development and use established for each area. Priority uses should be for environmental education areas, to be used in conjunction with other community educational and informational programs.
- h. Areas designated for preservation or wildlife habitat should be primarily managed for their wildlife and open space values with recreation and park uses clearly a subordinate and secondary activities. The use of hiking and equestrian trails should constantly be monitored for their impact and viability as a compatible use with wildlife habitat.

OBJECTIVE L-3

Protect and preserve agriculture as a viable land use.

Implementing Actions:

- a. Encourage the maintenance of agriculture on a permanent basis in those areas of the planning area designated for permanent agricultural use and on other areas until the time of development.
- b. Urban development should normally take place in those areas with the least productive soils leaving prime and potentially prime lands for agricultural use.
- c. Preserve range lands, with high quality soils for forage production, and Class I and II soils in parcels of sufficient size to permit:
 - The efficient utilization of best available technology
 - Crop diversity to minimize risk of dependency on few crops
 - Double cropping
 - High yield crops
- d. Promote the permanent use of lands not slated for industrial development or other compatible uses for agricultural purposes within the noise impact areas of MCAS El Toro.
- e. Land which is unsuitable for building because of hazards to public health, safety, and welfare should be preserved in an open space use, such as agriculture.
- f. Agricultural lands should be considered acceptable uses within flood plains and other hazardous areas.
- g. Maintain agricultural usage throughout the City as much as practicable.
- h. Create or preserve a "working model" farm to act as a nature center for education and enjoyment of all age groups.
- i. Encourage and support Federal and State legislation proposed for the purpose of preserving agricultural lands which are compatible with the City's goals and objectives.
- j. Counteract economic forces which make agriculture noncompetitive with urban uses.
- k. Use the California Land Conservation Act of 1965 (Williamson Act) to encourage the temporary use of agricultural lands.
- l. Identify areas within the planning area which are not under Williamson Act Contract, but which are in agricultural uses, and make every effort to bring these lands under contract.
- m. Open-space easements should be used to preserve agricultural uses on a permanent basis.

- n. Remove right to develop land desired for agriculture through fee or interest acquisition.
- o. Avoid early development of selected areas of prime agricultural lands.

OBJECTIVE L-4

Develop open space spines across the flatland areas as shown on the conservation and open space plan and further described in this element.

Implementing Actions:

The Peters Canyon Wash Corridor is defined as the Peters Canyon Wash Flood Control Channel and the areas immediately adjacent to the channel along both the east and west edges. These policies apply to Villages 1, 7, and 10 as defined in the land use element.

- a. A variety of land uses are permitted in this corridor as indicated on the land use plan, including residential, commercial, industrial, institutional, parks, roads, as well as hiking, bicycling, and equestrian trails. These uses in Village 10 shall be developed in the locations shown on the land use plan, that is other uses may not be substituted and the arrangement of the uses cannot be revised without a general plan amendment. A rearrangement of the uses in Villages 1 and 7 is permitted subject to more detailed planning at the time of zoning.
- b. The design of the wash shall be integrated into the design of the adjacent land uses in the corridor through the use of landscaping materials, complementary open spaces, continuous trail systems, and similar techniques.
- c. Adaptive, drought tolerant plant materials should be utilized whenever possible to minimize future maintenance needs.
- d. An extra attempt should be made in the design of the corridor to enhance its perception as a natural amenity when viewed from the arterial highways and freeways.
- e. Berms, walls, landscaping, and other techniques shall be used between the wash and the industrial and commercial uses to screen unattractive elements of those uses from residential areas.
- f. Uses which are included in the corridor and which are open space in nature such as parks, green belts, recreation areas, trails, and parking areas should be located adjacent to the wash wherever feasible to enhance the open space corridor.
- g. Conceptual site plans shall be submitted to the City by the developer which illustrates the compatibility of the proposed plans with these policies. The conceptual site plans shall encompass a corridor which is a minimum of 1000' wide with the wash in the center. They shall be submitted for approval by the Planning Commission prior to subdivision maps. Final site plans must be submitted for approval by City staff prior to building permit issuance. Existing nearby residential areas shall be notified of the filing of these site plans and be provided an opportunity to comment prior to approval.
- h. The corridors should be designed in coordination with the Orange County Flood Control District, the Army Corps of Engineers, and the City of Irvine.
- i. The corridors should provide adequate flood control protection in accordance with the City and County requirements.

- j. The design of the flood control channels and adjacent land uses shall be well integrated, especially where parks can be located adjacent to the channels.
- k. Linear parks adjacent to the channel shall be a minimum of 150' wide.
- l. The corridors should be designed to accommodate and provide continuity for transit and trail systems adopted in the general plan circulation element for that area.
- m. Access to the commercial sites by both vehicular and non-vehicular means shall be maximized.

The following policies apply only to Village 13 as defined in the general plan. For the purposes of these policies, Village 13 open space corridors are defined as the San Diego Creek and the Edison Substation transmission line right-of-way, and the areas immediately adjacent to these corridors as depicted through the approved concept plan.

- n. The types of uses which are permitted within these corridors are limited to open space uses. These include both passive and active open space and recreational uses, natural or manmade water courses, and trail systems.
- o. The corridors shall be integrated with adjacent land uses through the use of elements such as landscaping materials, complementary open spaces, greenbelts, appropriate setbacks, and continuous trail systems. Except for these integrative elements, the San Diego Creek corridor area shall be maintained in a natural state, insomuch as the adequate flood control standards are met as required by the City, County, and State.
- p. Adaptive, drought tolerant plant materials should be utilized whenever possible to minimize future maintenance needs and costs.
- q. Any improvements within the corridors should enhance their perception as natural open space amenities, insomuch as possible, when viewed from the surrounding highways and freeways.
- r. Berms, walls, landscaping, and other techniques shall be used between the corridor area and adjacent industrial, commercial, and institutional uses to screen unattractive elements of these uses from the corridors.
- s. Uses which are open space in nature such as parks, greenbelts, recreation areas, and trails should be located adjacent to the San Diego Creek whenever feasible to enhance the open space corridor system.
- t. Guidance of development within these open space corridors shall be provided by conceptual plans submitted to the Director of Community Development for review and approved by the Planning Commission. These plans shall delineate the treatment of the open space areas encompassed by the Edison right-of-way and the San Diego Creek.
- u. The corridors should be designed in coordination with the Orange County Flood Control District, the Army Corps of Engineers, California Department of Fish and Game, Southern California Edison, and the City of Irvine.
- v. The corridors should be designed to accommodate and provide continuity for intra-city transit and trail systems adopted in the general plan circulation element for that area.

Standards

(Reserved)

Related Objective Numbers

Land Use Element - A-2, A-3
Urban Design Element - B-1, B-2, B-4
Circulation Element - D-2, D-4, D-5, D-7
Scenic Highways Element - E-1, E-2
Public Facilities Element - G-1
Safety Element - J-1
Parks and Recreation Element - K-1
Conservation and Open Space Element - L-1, L-2, L-3, L-4
Cultural Resources Element - N-2

Compliance Regulations

City of Irvine Zoning Ordinance
Hillside Development Manual
Irvine Subdivision Ordinance
California Environmental Quality Act and Implementing Procedures
Resolution 1036, Eucalyptus Windrow Preservation Policy
Federal Endangered Species Preservation Act
California Species Preservation Act
California Endangered Species Act
California Fish and Game Code, Chapter 6, Sections 1601 and 1603

III-M

SEISMIC ELEMENT

The seismic element is a required element of local general plans (Section 65302(f) of the State Planning and Zoning Law). This element identifies seismic hazards and discusses strategies for reducing death, injuries, damage to property, and economic and social dislocation resulting from earthquakes and other geologic hazards.

Description of Seismic Activity

A seismic event, or earthquake, is the movement of the earth's crust along a fault. The impact of a seismic event on any given location depends on two factors: geologic setting and geologic conditions. Geologic setting refers to an area's proximity to active earthquake faults. A fault is a fracture in the earth's crust forming a boundary between rock masses that have shifted. An active fault, for planning purposes, is usually defined as a fault that shows movement within the last 11,000 years and can be expected to move within the next 100 years.

Geologic conditions refer to the stability of the soil during an earthquake. For example, loose, unconsolidated soil is more prone to liquefaction during an earthquake than compacted soil or rock. The planning area can be divided into five general types of geologic conditions called Seismic Response Areas (SRA). The predominant characteristics of the areas are as follows:

- SRA 1: Potential soft or loose soils/high ground water. This is one of the two areas considered to have a greater potential for ground failure in the form of liquefaction, in comparison to the other seismic response areas. Liquefaction is not expected to occur for all earthquakes, nor over the whole of SRA 1.
- SRA 2: Denser soils/deeper ground water. The predominant potential seismic hazard in this area is ground motion. Ground breakage and/or ground failure is not expected to characterize this area. Localized liquefaction potential is remote.
- SRA 3: Shallow alluvium over and abutting bedrock. Ground motion is the primary potential seismic hazard. As a slope increases in this area, slope instability potential increases. Localized liquefaction potential is remote.
- SRA 4: Highlands characteristically over 20% slope. Area is, in general, potentially less stable than in SRA 3 due to the larger incline. Liquefaction potential is extremely remote.
- SRA 5: Less stable geologic formations. These are areas representing existing mapped landslide areas. As such, potential for slope instability is higher than in SRA 4.

SRA's describe the different types and magnitudes of potential seismic hazards, making it possible to evaluate the risks of property damage, personal injury, and loss of vital services which may result from an earthquake. Due to the strong relationship between this element and the safety element, they should be considered together in identifying the location and type of development permitted in the City, in developing building standards, and in providing services to City residents.

Existing Conditions

With the exception of the Norwalk Fault, on which there has been some recorded activity north of the planning area, there are no mapped active faults in the area. There are, however, regional faults considered to be active, which do have an effect on the planning area. The nearest active fault, the Newport-Inglewood, originates north of Inglewood, passes below Newport Bay and Balboa Island and continues south off the coast, possibly as far as San Diego. This fault is capable of generating earthquakes up to a magnitude of 7.5 on the Richter scale. The Whittier-Elsinore fault system passes the Irvine planning area about ten miles to the northeast. Considered potentially active and exhibiting evidence of large movements in the recent geologic past (10,000 years), it is considered capable of generating earthquakes up to a magnitude of 7.5 as well. The San Andreas fault passes within thirty-five miles of the planning area and is capable of generating earthquakes of 8.0 on the Richter Scale. Approximately thirty miles to the northeast and parallel to the San Andreas is the San Jacinto fault. This fault has been more active than the San Andreas within the last one hundred years. It is capable of generating earthquakes up to 7.5 in magnitude.

Figure M-1 shows the locations of the SRA's within the planning area. Ground breakage is not expected to occur within the planning area, however, the area would be subject to ground motion and other effects of earthquakes. The potential for ground failure due to liquefaction is considered greater in SRA 1, than in the rest of the planning area. Slope instability potential is considered greatest in SRA 5. Careful planning will be necessary to minimize public maintenance costs for development in these areas.

The magnitude of risk will vary from location to location in the planning area depending upon the land use. Each land use differs from other uses in terms of type of construction, type of occupancy, function, costs, and value of improvements. The Seismic Land Use Compatibility Matrix, Figure M-2, was formulated through an analysis of the seismic hazard potential in the SRA versus the damage expected in various structure types.

Seismic Land Use Compatibility reflects the relative sensitivity of each land use to potential hazards, it does not, however, imply a specific level of risk of hazard. The chart, thus, can be used to provide decision makers with relative risk assessments so that uses and areas with the highest sensitivity are identified, and it can be used as the basis for judging the level of detail of information that should be provided prior to the approval of specific developments. Figure M-2 is not sufficient data in itself, however, to determine the suitability of a specific development on a specific site.

Trends

A seismic activity report prepared by Woodward-McNeill and Associates shows that the planning area might have a probability of 50% in any 100-year period for one of the following two "study" earthquakes:

- Study Earthquake One: A nearby earthquake (within 10 miles) of moderate magnitude (Richter Magnitude 5 to 6). Such an earthquake could occur on the Newport-Inglewood or Whittier-Elsinore fault systems.
- Study Earthquake Two: A major, distant earthquake (20-40 miles from the planning area) of Richter Magnitude 8 to 8.5 such as could occur on the San Andreas fault.

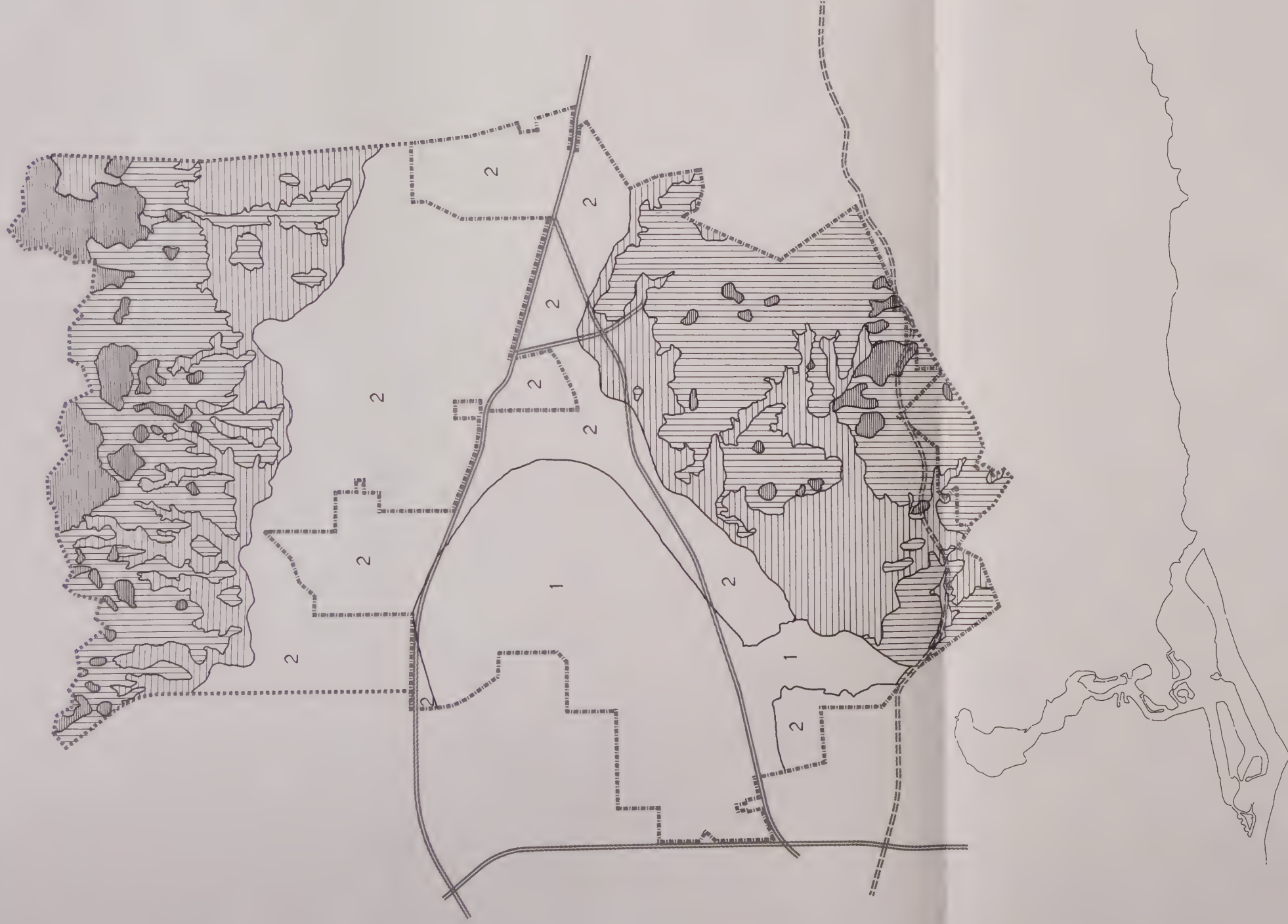


FIG. M-1



SEISMIC RESPONSE AREAS

- 1 SRA-1, SOFT SOILS/HIGH GROUND WATER
- 2 SRA-2, DENSER SOILS/DEEPER GROUND WATER
- SRA-3, ALLUVIUM/SHALLOW BEDROCK
- SRA-4, HIGHLANDS OVER 20% SLOPE
- SRA-5, LESS STABLE GEOLOGIC FORMATIONS

SPHERE OF INFLUENCE CITY BOUNDARY

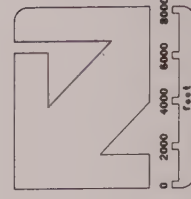


FIG. M-1

SEISMIC LAND USE COMPATIBILITY

FIGURE M-2

IRVINE STUDY AREA

	Seismic Response Area				
	1	2	3	4	5
Low Density Residential	5	3	4	4	4
High Density Residential	8	6	7	7	8
Commercial Center	9	7	8	7	8
Industrial Buildings	7	4	6	5	7
Public Facilities	9	8	9	8	9
Airport / Air Station	7	5	6	6	7
Flood Control	1	1	1	1	1
Open Space	1	1	1	1	1

1 = Most Compatible 10 = Least Compatible

SOURCE : Wilsey & Ham, base information provided by Woodward
McNeill & Associates

The study earthquakes were considered to be severe enough to evaluate potential seismic hazards and have a large enough potential for occurrence to be considered as a credible event during the life of a structure. While a more severe earthquake may occur than the two previously mentioned, an evaluation of potential seismic hazards on the maximum credible event only, might result in inappropriately severe policy implications, when the low probability of such an event happening is taken into account.

Identification of Issues

1. The level of seismic hazards to which Irvine will be subjected is not as severe as in other portions of the State. There are few areas in the planning area that should be developed by seismic criteria exclusively. How can the City appropriately regulate development in areas subject to differing levels of risk, thus minimizing the risk of seismic hazards to life and property?
2. In the occurrence of an earthquake, what steps can the City take to minimize loss of life and property?

Response to Issues

Seismic hazards can be identified early in the development process through soil research and planning. Other types of hazards, as identified in the safety element, should be considered with seismic hazards when planning development in the City. The following goal, objectives and implementing actions have been adopted to address the seismic issues identified.

GOAL M

SEISMIC ELEMENT

Reduce to a minimum the loss of life, disruption of goods and services, and destruction of property associated with an earthquake.

To achieve this goal, the City of Irvine has adopted the following objectives and implementing actions:

OBJECTIVE M-1

Take potential environmental hazards into account in the general plan.

Implementing Actions:

- a. Having identified the locations of seismic potential hazards, take action to minimize the effects of the potential hazard through special development constraints.
- b. Conduct a research program to, through field investigation, ascertain more refined boundaries for Seismic Response Areas, particularly for SRA 1.

OBJECTIVE M-2

Require all public and private development take appropriate measures to protect public health and safety and to respond to seismic hazards.

Implementing Actions:

- a. Utilize the information developed in the general plan for Seismic Response Areas (SRA) so that development occurs in a manner which minimizes the effects of environmental hazards.
- b. Develop a building code utilizing the specific recommendations for a seismic design in the accompanying technical document.
- c. Include a seismic overlay zone in the Zoning Ordinance which reflects the Seismic Response Area standards in this document.
- d. Incorporate the proposed seismic overlay zone requirements into the environmental impact review process.
- e. Encourage and cooperate with efforts for a Regional Seismic Safety Plan.
- f. Require detailed site studies to ascertain the potential for seismic hazards for facilities which are critical in an emergency. These facilities include but are not limited to:
 - Hospitals
 - Police and fire stations
 - Municipal government centers
 - Transportation linkages
 - Major public utilities (electrical, water facilities)
 - Designated emergency centers
 - Buildings greater than 15 stories in height.
- g. Require installation of accelerographs to measure seismic movement in appropriate structures.
- h. Designate a "command post" in the vicinity of El Toro Air Station in that it is in an area of expected "least" earthquake damage.
- i. Study an emergency access alternative to and from Pacific Coast Highway, in the event that the road is inoperable after an earthquake or other disaster.

OBJECTIVE M-3

Encourage private citizens to take action to protect themselves.

Implementing Actions:

- a. Sponsor earthquake insurance programs for City residents.
- b. Sponsor educational programs to prepare citizens for earthquakes and other natural disasters.
- c. Encourage individual citizens to establish "family emergency disaster plans."
- d. Study methods to encourage citizens to purchase disaster insurance.

Standards

Seismic Response Area 1

Seismic Response Area 1 requires general geologic investigations for the following general types of uses to be included in the environmental impact report.

- Villages
- Community/regional shopping centers
- Major commercial office centers
- Major public facilities
- Major public utilities
- Major transportation linkages
- Any facility critical to emergency response
- Major industrial developments.

If general geologic investigation so indicates, perform detailed geologic investigations of site prior to filing of site maps for above types of uses.

If detailed geologic investigation confirms existence of seismic hazard, the City has the option to require special earthquake resistant design features or use limitations as is appropriate to the specific case.

Seismic Response Area 2

Require that general geologic investigation be included in environmental impact report for the following uses:

- Villages with high density residential uses
- Community/regional shopping centers
- Major commercial/office centers
- Major public utilities
- Major public facilities
- Facilities critical to emergency response.

If general geologic investigation so indicates, perform detailed geologic investigations of site prior to filing of subdivision maps for above types of uses.

If detailed geologic investigation confirms existence of seismic hazard, the City has the option to require special earthquake resistant design features or use limitations as is appropriate to the specific case.

Seismic Response Area 3

Require that general geologic investigations be included in environmental impact report for the following uses:

- Villages with high density residential uses
- Community/regional shopping centers
- Major commercial/office centers
- Major public utilities
- Major public facilities
- Facilities critical to emergency response.

Seismic Response Area 4

Require that general geologic investigations be included in environmental impact report for the following types of uses:

- Planned communities with high density housing
- Community/regional shopping centers
- Major commercial/office centers
- Major public utilities
- Major public facilities
- Facilities critical to emergency response.

If general geologic investigation so indicates, perform detailed geologic investigations of site prior to filing of subdivision maps for above types of uses.

If detailed geologic investigation confirms existence of seismic hazard, the City has the option to require special earthquake resistant design features or use limitations as is appropriate to the specific case.

Seismic Response Area 5

General geologic investigation should be included in the environmental impact report for any use proposed in these areas. Those investigations should concentrate on landslide problems and probable changes to the environment which would occur if these areas would be developed.

If detailed geologic investigation confirms existence of potential seismic hazard, the City has the option to require special earthquake resistant design features or use limitations as is appropriate to the specific case.

Related Objective Numbers

Housing Element - C-5
Safety Element - J-1, J-2
Parks and Recreation Element - K-1, K-2
Conservation and Open Space Element -L-1, L-3

Compliance Regulations

California Environmental Quality Act and Implementing Regulations
City of Irvine Zoning Ordinance
City of Irvine Subdivision Ordinance
City of Irvine Uniform Building Code

III-N

CULTURAL RESOURCES ELEMENT

This element recognizes the importance of historical, archaeological, and paleontological resources in the City of Irvine and establishes a process for their early identification, consideration, and where appropriate, preservation. This is an optional element under California Planning and Zoning Law.

Description of Cultural Resources

The City of Irvine has an expressed concern for the development of an increased understanding of and appreciation for the historic and prehistoric heritage of the planning area. This element was prepared to more fully recognize the importance of historical, archaeological, and paleontological sites in the City and to provide policy guidance for the disposition of significant historic, archaeologic, and paleontological sites and findings. A number of studies and research efforts have been conducted that identify the specific details of the archaeological and historical progression in the Irvine area. It is not the intent of this element to duplicate those efforts, but rather to put their findings into the context of policies that the City, as it develops, will employ in making decisions regarding their treatment.

The following definitions will assist the reader in understanding the material presented in this element:

Site (Historical): Any structure, place, or feature which is or may be significant to the post 1542 A.D. history, architecture or culture of the nation, state, region, or community.

Site (Archaeological): Any mound, midden, settlement, burial ground, mine, rock art, or other location containing evidence of human activities which took place prior to 1542 A.D.

Site (Paleontological): Any area or location containing a trace or impression, or the remains, of plants or animals from past ages.

Significant Site: A site which, regardless of size, in the opinion of an historian, archaeologist, or paleontologist and the City, could yield new information or important verification of a previous finding, or be of significant scientific, cultural, educational, or recreational value, either now or in the future.

Survey: An on-foot reconnaissance of an area conducted for the purpose of determining the presence or absence of historical, archaeological, or paleontological resources.

Existing Conditions

The Irvine area has a "rustic charm." Its past is not so much tied to major significant events such as Indian wars, early urban settlements, birth places of important figures in history, or early missions, but rather it is an area rich in the history of the daily evolution of life in the southern California area. Irvine evolved from an early stage of numerous Indian camps, through an era of Spanish control, to a period of early "Americanization" with the establishment of several "ranchos." Three of these ranchos were later combined to form the Irvine Ranch, purchased in 1876 by James Irvine.

The historic and archaeological sites recorded by previous surveys are illustrated in Figure N-1. While none of the historic sites within the City are listed in the California Inventory of Historic Resources, many qualify. The planning area, however, does include two sites, Barton's Mound and the Portola Campsite at Tomato Springs, found in the California Inventory. Several of the more important sites may also qualify for listing in the National Register of Historic Places.

Trends

With much of the planning area still undeveloped, the opportunity exists to identify cultural resources of significance and develop programs for their appropriate disposition. Already, The Irvine Company has conducted archaeological surveys covering major portions of their property. While these surveys are continuing, the opportunity exists for the city to insure that allowances are made within proposed development plans for the proper disposition of the resources discovered.

Future loss of some cultural resources should be anticipated since alternative uses for many of the existing sites have been designated on the general plan land use map. In addition, planned urban uses surrounding historical sites may adversely affect their historical value by altering their traditional settings. Urban uses may also raise surrounding land values so that it becomes economically unfeasible or incompatible for historic uses to remain. Widening of existing roads may also have a negative impact on existing cultural resources.

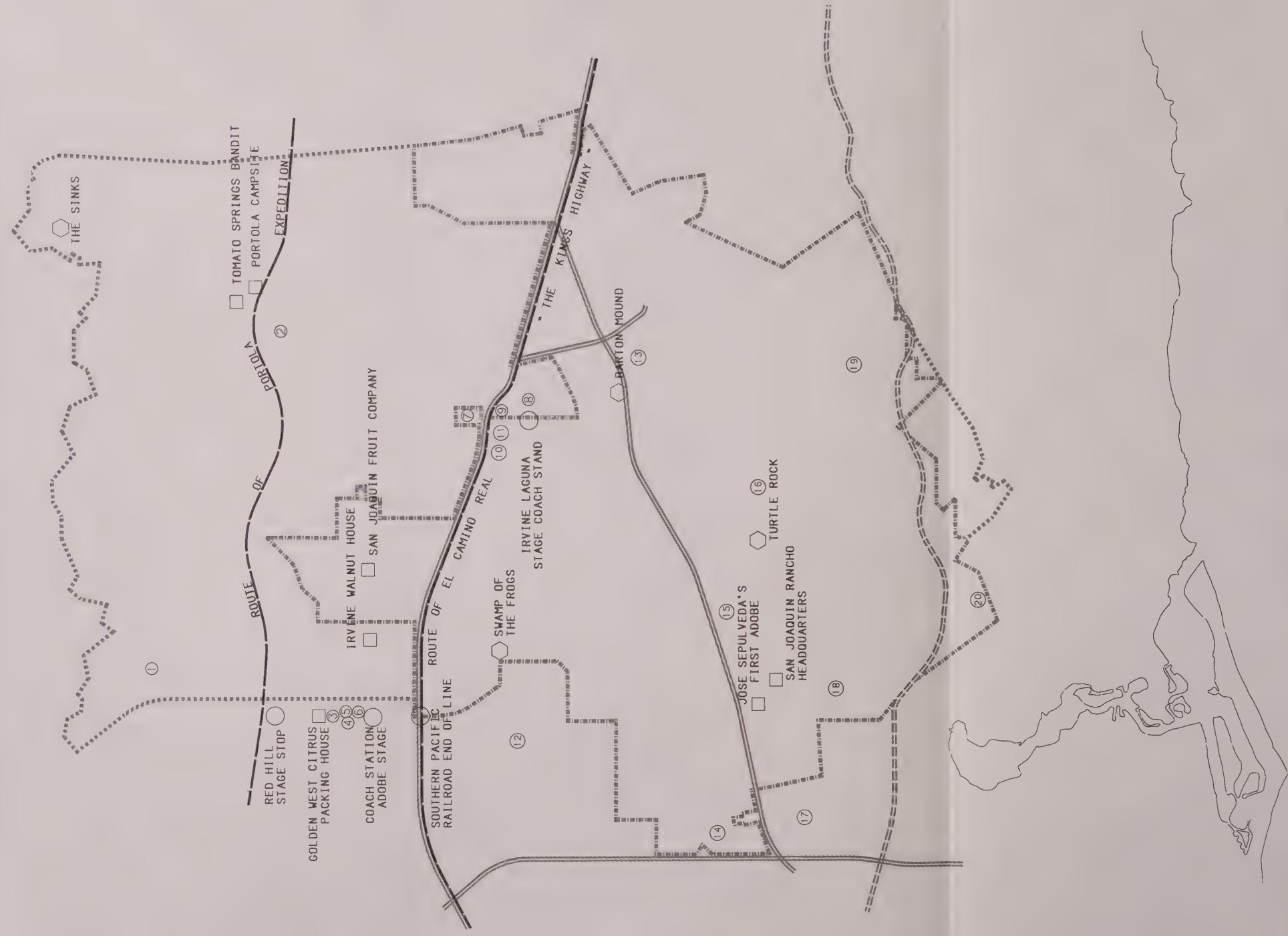
Although many historic sites may be affected, the Irvine Ranch Headquarters at Irvine Boulevard and Myford Road is particularly threatened by proposed uses. The headquarters includes a rather large area with several buildings dating back to 1900. The area of Barton's Mound, a State Historical Landmark, was destroyed as a result of construction of the San Diego Freeway.

With the large number of known archaeological sites existing in the planning area, and their sensitivity to urban development, destruction, or covering of some of these sites should be expected to occur as well. The greatest impact would be in Upper Newport Bay and the Santiago and San Joaquin Hills where large concentrations of important sites are found.

Identification Of Issues

The following is a summary of the major issues concerning cultural resources in the City of Irvine:

1. Many identified historic, archaeological, and paleontological sites may have been destroyed or covered by existing development. Investigation of archaeological sites on all of the planning area has not been conducted. Many sites and buildings could be considered "low interest finds" in that they are significant to historians, not so much for the intrinsic value, as for their value as a small piece in the large picture of the evolution of the Southern California area. What system should be used to identify and determine the significance of historical, archaeological, and paleontological resources?
2. Little, if any, public or private funding is available for preservation, and most existing buildings, sites, or potential sites would find it difficult to qualify for available funding. Who should fund the investigations, mitigations, and preservation of cultural resources?



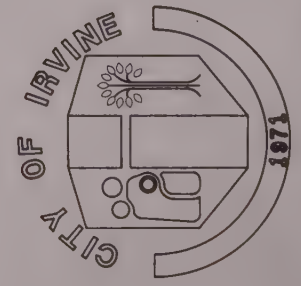
- 1 HIGH LINE CANAL
- 2 FIRST IRVINE OFFICE/RANCH HEADQUARTERS
- 3 IRVINE FAMILY HOME SITE & GARDENS
- 4 C.F. KRAUS RESIDENCE
- 5 IRVINE EMPLOYEE HOUSING
- 6 IRVINE COMMUNITY CENTER/PUBLIC SCHOOL

- 8 IRVINE BEAN WAREHOUSE
- 9 EAST IRVINE GARAGE/STATION
- 10 EAST IRVINE POST OFFICE/GENERAL STORE
- 11 DERIGIBLE HANGERS "LIGHTER THAN AIR" BASE
- 12 LIVE OAKS CANYON ROAD
- 13 SITE OF MICHELSON VACUUM TUBE SPEED OF LIGHT EXPERIMENTS

- 15 FIRST HOME IN UNIVERSITY PARK
- 16 FRENCH HILLPORT (ORIGINAL SITE OF JOHN WAYNE AIRPORT)
- 17 MATTIUS MARSH/PEAT BOGS
- 18 SAN JOAQUIN MARSH/PEAT BOGS
- 19 BOMBER CANYON CATTLE CAMP
- 20 URBANUS SQUARE (OLD BUFFALO RANCH)

HISTORICAL & ARCHAEOLOGICAL SITES

- — EXISTING SITES
- — FORMERLY EXISTING SITE
- ◡ — OTHER



SPHERE OF INFLUENCE CITY BOUNDARY

FIG. N-1

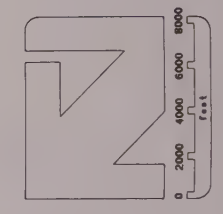


FIG. N-1

Response To Issues

In 1975, the City foresaw the need to broaden the previously adopted historical element of the general plan. This was in response to the discovery of several important archaeological sites in areas proposed for imminent development. While the City recognized the importance of these resources through its entitlement to use approvals, the existing general plan historical element did not provide a definitive process for the early identification of all three categories of cultural resources or a system for determining their proper disposition.

In response, the City Council adopted an amended element in 1977 containing the following goal, objectives and implementing actions which established a systematic method of resource identification and review.

GOAL N

CULTURAL RESOURCES ELEMENT

Insure the proper disposition of historical, archaeological, and paleontological resources in order to minimize adverse impacts, and to develop an increased understanding and appreciation for the community's historic and prehistoric heritage, and that of the region.

To achieve this goal, the City of Irvine has adopted the following objectives and implementing actions:



OBJECTIVE N-1

Identify and obtain information on the existence and significance of historical, archaeological, and paleontological sites and encourage land use planning which incorporates this information during a project's conceptual design phase.

Implementing Actions:

- a. Require appropriate surveys and necessary site investigations in conjunction with the earliest environmental document prepared for a project, in accordance with California Environmental Quality Act (CEQA) and the City's CEQA procedures.
- b. Require surveys prior to a change of zone, or initial project approval, for areas where the possibility of encountering sites exists. Additional specific site investigations may also be required in order to obtain sufficient information to determine the site's significance. The project sponsor shall fund this level of investigation.
- c. Require a written report be submitted to the City following a survey or investigation describing the findings and making recommendations as to the site's significance and future disposition, and the amount of further investigation which should be undertaken. Copies of site survey records and reports shall be filed with the appropriate clearinghouse.
- d. Encourage, if appropriate, removal of all materials collected during the survey/ investigation to local museums, universities, or other depositories providing access for public review or scientific research.
- e. Maintain information on areas surveyed, numbers of sites located, their status and the names and addresses of individuals or organizations knowledgeable of the sites.
- f. Specific locations of unprotected sites should be held as confidential information to avoid vandalism and the resultant irretrievable loss to the historic and prehistoric record of the community.

OBJECTIVE N-2

Evaluate each site recorded in the survey as to its present and potential cultural, educational, recreational, and scientific value to the community and the region, and determine its proper disposition prior to the approval of any project which could adversely affect it.

Implementing Actions:

- a. Ensure that sites determined to be significant are protected through the City's planning policies, ordinances, and approval conditions.
- b. Encourage the nomination of significant, protected sites to the National Registry of Historic Places.
- c. Include sites which are appropriate for educational or recreational purposes as an integral part of either public or community facilities or as part of the city-wide bikeway, pedestrian, and equestrian trail systems. Encourage agencies, organizations, and individuals to develop interpretive and educational programs in order to properly utilize the site for the benefit of the entire community.
- d. Establish an historical, archaeological, and paleontological committee to study site disposition alternatives and make recommendations to the City Council, Commissions, and staff.
- e. Designate a staff representative to act in matters relating to the implementation of this element to include identification of costs, and to coordinate the investigation and disposition of sites between an advisory committee, City departments and Commissions, The Irvine Company, and other agencies, institutions, organizations, and individuals.
- f. Determine the methods and means of preservation on a case by case basis according to a site's importance and disposition methods available. These may include public or private acquisition or one of the following, provided extreme care is exercised not to adversely affect the site.
 - Inclusion within greenbelts, parks, or other open space.
 - Coverage by adequate fill, pavement, or buildings of surface or sub-surface sites.
 - Use of the site for nondestructive public interest or educational purposes such as museums, interpretive centers, or outdoor classrooms.
 - Movement of buildings for preservation as part of a consolidated historic site.
 - Utilization of buildings in a preserved state as a part of their functional capacity (e.g., a building preserved and used as an office, restaurant, or home).
- g. Encourage site preservation through economic incentives such as increased building densities, reduced taxes, credit toward park dedication, or reduction of other amenity requirements. Where incentives are not sufficient, the land owner shall be directly compensated by the City or other public or quasi-public agencies or organizations for land preserved as an archaeological, paleontological, or historical site. The costs of site preservation may be the principle responsibility of the City, other public, or quasi-public agencies or organizations.

- h. Ensure that advance impacts of a proposed project on cultural resources are investigated in accordance with CEQA, as well as other appropriate city policies and procedures, where preservation of a significant site is not practicable.
- i. Assign the Community Services Commission the responsibility to oversee implementation programs for sites or buildings which have been acquired by the City.
- j. Identify and implement revenue sources which can be expended in support of this objective.

Standards

Site Surveys and Investigations

Site surveys and investigations shall be accomplished under the supervision of a qualified person, a person who meets the City's established minimum qualifications for historian, archaeologist, or paleontologist, and who has been approved by the City. Whenever possible, students and other residents, as well as organizations should be encouraged to assist in the investigation.

Survey and investigative reports shall describe the data recovered, and all such data, materials, photographs, and notes should be deposited in an institution where they are available to the public and the scientific community. Provision should be made for the return of these materials at such time as the appropriate facilities are available.

Funding of Archaeological Excavations

In the case of archaeological salvage excavations, the following cost sharing formula may be used as a guideline: 75% project sponsor; 25% City or other public or quasi-public agency or organization. The costs of other mitigation measures may also be shared by the landowner or developer, the City and other agencies or organizations.

Related Objective Numbers

Land Use Element - A-2

Compliance Regulations

The California Environmental Quality Act (CEQA)
California CEQA Guidelines
City of Irvine CEQA Procedures

GLOSSARY

GLOSSARY

A

Acoustics - (1) The science of sound, including the generation, transmission, and effects of sound waves, both audible and inaudible. (2) The physical qualities of a room or other enclosure (such as size, shape, amount of noise) that determine the audibility and perception of speech and music.

Active Recreation - Leisure time activities, usually of a more formal nature and performed with others, often requiring equipment and taking place at prescribed places, sites, or fields.

Activity Corridor - The east-west linear corridor, bounded by parkways, with a grouping of public and private facilities connecting Irvine Industrial Complex-East, Irvine Center, Irvine Business Complex with the residential villages of the flatlands.

Adequate Housing - Housing which: (1) is structurally sound, water-tight and weather-tight, with adequate cooking and plumbing facilities, heat, light and ventilation; (2) contains enough rooms to provide reasonable privacy for its occupants; and (3) is within the economic means of the households who occupy it.

Affordability - Refers to the amount paid for shelter; a household is considered to have problems with affordability if they occupy a unit at a cost greater than 30% of gross household income.

Ambient Noise Level - That level that exists at any instant, regardless of source.

Amenity - Any service or facility which extends beyond the definition of adequate housing.

Annexation - The incorporation of a land area into the existing community with a resulting change in the boundaries of the community.

Archaeological Site - Any mound, midden, settlement, burial ground, mine, rock art, or other location containing evidence of human activities which took place prior to 1542 A.D.

Area - As used in the land use element, that tract of contiguous land within one land use category.

At-grade - The crossing of two movement channels of transportation at the same elevation or level.

B

Barrier - An element which obstructs access. It may serve as a visual and/or functional obstruction.

Berm - An embankment, usually extending in a linear alignment. Berms can function as visual screens, noise attenuators, and water diverters.

Bicycle Trail - A paved pathway designed to be used by bicyclists.

C

Capital Improvement - A government acquisition of real property, major construction project, or acquisition of long lasting, expensive equipment.

Capital Improvement Program (CIP) - A proposed timetable or schedule of all future capital improvements to be carried out during a specific period and listed in order of priority, together with cost estimates and the anticipated means of financing each project.

Cemetery - Property used for the interring of the dead.

CEQA - California Environmental Quality Act

Channel - A water course with a definite bed and banks which confine and conduct the normal continuous or intermittent flow of water.

Character - An attribute, quality or property of a place, space, or object. The distinguishing character of a place, space, or object.

Circulation - An all-inclusive word which describes movement and paths of movement. It includes: pedestrian, bicycle, automobile, and aircraft movement.

Civic Center - A concentration or an assembly of governmental buildings and other semi-public functions.

Class I Bikeway - A completely separated travel way designed for the exclusive use of bicycles.

Class II Bikeway - A shared travel way with only signing and striping provided.

Community Association - A homeowners association organized to own, maintain, and operate common facilities and to enhance and protect their common interests.

Community Collector - A medium speed highway abutting similar land uses. The primary function is to collect and distribute trips within a hierarchy of roads and, secondarily, to carry short trips between adjacent neighborhoods. A community collector has emergency parking only and has a significant amount of parallel and perpendicular pedestrian traffic.

Community Facility - A building or structure owned and operated by a governmental agency to provide a governmental service to the public.

Community Noise Equivalent Level (CNEL) - A scale that accounts for A-weighted acoustic energy received at a point over a 24-hour period. To reflect the increased annoyance caused by noise events during the evening and nighttime, weighting factors of 5 dBA and 10 dBA are added to the sound levels between 7-10 p.m. and 10-7 a.m., respectively.

Community Parks - Community parks serve more than one village. They vary in size, but are generally 20 acres and should meet the need of all age groups by providing a wide variety of land use.



Concept Plan - A planning tool used to resolve issues for an entire village. The concept plan represents a composite of general plan information to serve as a guide on future zoning request. Includes such issues as land uses, phasing, public facilities, park, grading, and drainage.

Conditional Use - A use permitted in a particular zoning district only upon showing that such use in a specified location will comply with all the conditions and standards for the location or operation of such use as specified in a zoning ordinance.

Condominium - A building, or a group of buildings, in which units are owned individually, and the structure, common areas, and facilities are owned by all the owners on a proportional, undivided basis.

Cultural Facilities - Establishments such as museums, art galleries, botanical, or zoological gardens of an historic, educational, or cultural interest, which are not operated commercially.

D

dBA - A quantity in decibels read from a sound level meter that is switched to the weighting network labeled "A." The A-weighting network discriminates against the lower frequencies according to a relationship approximating the sensitivity of the human hearing mechanism.

Decibel - (Abbreviated "dB") A unit of noise measurement indicating the loudness of sound. It is based on logarithmic scale, of the magnitude of a particular quantity (such as sound pressure, sound power, intensity) with respect to a standard reference value (0.0002 microbars for sound pressure and 10-12 watt for sound power).

Department of Housing and Community Development (HCD) - The department of the California State Government which has responsibility for housing policy and programs. HCD establishes the guidelines for preparation of local housing elements, prepares the statewide housing element, and offers technical assistance to local jurisdictions.

Department of Housing and Urban Development (HUD) - The department of the federal government which administers a variety of housing programs. These include Section 8, Section 202, and the Community Development Block Grant.

District - A district is a settlement composed of a collection of villages and in some cases special projects that share common characteristics or orientations. Districts are the medium-to-large sections of the city which the observer recognizes because of some common, identifying character.

Dwelling Unit - One or more room and a single kitchen, designed for occupancy by one family for living and sleeping purposes.

E

EIR - Environmental Impact Report.

F

Fault - A fracture in the earth's crust forming a boundary between rock masses that have shifted. An active fault is a fault that has moved recently and which is likely to move again. An inactive fault is a fault which shows no evidence of movement in recent geologic time and no potential for movement in the relatively near future.

Freeway - A high speed divided state highway for through traffic with full control access and grade separations at all intersections. A freeway has emergency parking only and no parallel or perpendicular pedestrian movements.

Frequency - The frequency of a sound wave, expressed in cycles per second, or hertz, determines the "pitch" of the sound. High frequencies produce high-pitched sounds, and low frequencies produce low-pitched sounds.

G

Gateway - At the urban scale, gateways are referred to as the major entrances to the City.

Grading - Any stripping, cutting, filling, stock piling of earth or land, including the land in its cut or filled condition.

Greenbelt - An open area which may be cultivated or maintained in a natural state surrounding development or used as a buffer between land uses or to mark the edge of an urban or developed area.

Ground failure - Mudslide, landslide, liquefaction, or the seismic compaction of soils.

Groundwater - The supply of freshwater under the surface in an aquifer or soil that forms the natural reservoir for potable water.

H

Handicapped - Persons determined to have a physical impairment or mental disorder which is expected to be of long-continued or indefinite duration and is of such a nature that the person's ability to live independently could be improved by more suitable housing conditions.

Hertz - Unit of measurement of frequency, numerically equal to cycles per second.

Hierarchy - Any system of interrelated persons or things, ranked one above another in descending order of importance or size.

Historical Site - Any structure, place, or feature which is or may be significant to the post 1542 A.D. history, architecture, or culture of the nation, state, region, or community.

Household - All persons occupying a single dwelling unit.

Housing Costs - The City of Irvine has established the following standards as to how much a household should pay for shelter: For Rental Units - Monthly rent should be no more than 30% of gross monthly household income. (For the purposes of this standard, utilities are not included as part of rent.) For Ownership Units - Sales

price should be no more than 3.0 times gross household yearly income. (For the purposes of this standard, sales price is the price which serves as the basis of the mortgage exclusive of brokers fees, financing, and closing costs.)

Using the standards stated above, it is possible to calculate the price and rent ranges considered affordable for the income categories used by Irvine in its housing program.

<u>Category</u>	<u>Income Range ¹</u>	<u>Sales Price</u>	<u>Rent</u>
Low	\$ 0 - 18,400	\$ 0 - 55,200	\$ - - 460
Moderate	\$18,400 - 27,600	\$55,200 - 82,800	\$460 - 690
Upper	\$27,600 and over	\$82,800 and over	\$690 and over

(1) Based on Orange County median income of \$23,000.

Housing Unit - The place of permanent or customary and usual abode of a person, including a single-family dwelling, a single unit in a two-family dwelling, multi-family or multi-purpose dwelling, a unit of a condominium or cooperative housing project, a non-housekeeping unit, a mobile-home, or any other residential unit which either is considered to be real property under State law or cannot be moved without substantial damage or unreasonable cost.

I

IBC - Irvine Business Complex.

Identity - Unity and persistence of personality; clarity of organization within a broad group of dissimilar objects. Synonymous with comprehensibility.

IIC-E - Irvine Industrial Complex-East.

Image - A mental representation, a conception or idea. Imageable urban form would be where the differentiated parts of the City would be integrated into a visual whole that is coherent, meaningful, memorable, and highly pleasurable.

Impact - A word used to express the extent or severity of an environmental problem, e.g., the number of persons exposed to a given noise environment.

Income - Salary and/or wages, interest from assets, tips, pensions, assistance grants. If assets exceed \$5,000, income shall also include actual income from assets or 10% of their value, whichever is greater. Net assets include equity in real property, savings, stocks, bonds, and other forms of capital investment.

Income Ranges - In order to cover the full spectrum of incomes in Irvine, the income categories below have been established for the purposes of the City's housing program. This listing also shows the corresponding dollar ranges based on the most recent Orange County median family income. (1980: \$23,000).

<u>Category</u>	<u>Definition</u>	<u>1980 ⁽¹⁾ Dollar Range</u>	<u>1983 ⁽²⁾ Dollar Range</u>
Low	0- 80% of OC median	\$ 0 - 18,400	\$ 0 - 27,000
Moderate	80-120% of OC median	\$18,400 - 27,600	\$27,000 - 40,700
Upper	120% and over	\$27,600 and over	\$40,700 and over

Based on Orange County Median Family Income

(1) 1980: \$23,000

(2) 1983: \$33,900

Note: The word "lower" has been used in the housing element to mean both "low" and "moderate" in references to income, housing prices and rents.

Infrastructure - Facilities and services needed to sustain industry, residential, and commercial activities. Infrastructure includes water and sewer lines, streets and roads, communications, and public facilities such as fire houses, parks, etc.

Institutional Use - A non-profit or quasi-public use or institution such as a church, library, public or private school, hospital, or municipally owned or operated building, structure or land used for public purpose.

Interfaith Centers - Religious facilities for worship, education, and fellowship activities which are shared by two or more denominations.

IUSD - Irvine Unified School District.

L

Land Use - Putting land, water and air space to a specific use - a description of how land is occupied or utilized.

Large Family - A family of 5 or more persons.

Ldn - The day/night average level established by the U.S. Environmental Protection Agency. It is similar to the CNEL descriptor; however, there is no evening weighting, only a 10 dBA weighting for the nighttime hours.

Leq - The equivalent steady-state that, in a stated period of time, would contain the same acoustic energy as the time-varying level.

Liquefaction - A process by which water-saturated granular soils transform from a solid to a liquid state because of a sudden shock or strain.

Local Street - A low speed, low volume highway primarily for access to residential, business, and other abutting property. A local street may have parking and a significant amount of parallel and perpendicular pedestrian traffic.

Loudness - The judgement of intensity of a sound by a human being. Loudness depends primarily upon the sound pressure of the stimulus. Over much of the loudness range it takes about a threefold increase in sound pressure (approximately 10 dB) to produce a doubling of loudness.

M

Market-Rate Households - Households who, as determined by the City, have the financial capability to meet their housing needs without sacrificing other essential needs.

Mass Transit - A public common carrier transportation system having established routes and schedules.

MCAS - Marine Corps Air Station.

Mitigation Measures - Means by which an adverse impact may be lessened or minimized.

N

Needing Rehabilitation - Refers to a housing unit which, in its present state, materially endangers the health, safety, or well-being of its occupants in one or more respects, and which is economically feasible to repair.

Needing Replacement - Refers to a housing unit which, in its present state, materially endangers the health, safety, or well-being of its occupants in one or more respects, and which is not economically feasible to repair.

Neighborhood - A neighborhood is the smallest settlement unit. In Irvine the term is generally used synonymously with tract increment within villages.

Neighborhood Park - A neighborhood park is intended to serve local residents and should be within walking distance of the household it serves. Public neighborhood parks range in size from 3 to 12 acres and serve a minimum of 2,500 people each. Primary uses include passive open space, active play areas for children. Private neighborhood parks, are placed in the interior of residential developments or condominium complexes, and exclusively serve association members. They are more intensely developed and adult oriented.

Noise - Any sound that is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying.

Noise Sensitive Land Uses - As identified in the City's Noise Element (page F-3), noise sensitive land uses include residential, convalescent and rest homes, hospitals, libraries, churches, and schools.

Non-Market-Rate Households - Households who, as determined by the City, do not have the financial capability to meet their housing needs without sacrificing other essential needs.

O

OCTD - Orange County Transit District.

Open Space - Any parcel or area of land or water essentially unimproved and set aside, dedicated, designated, or reserved for public or private use or enjoyment, or for the use and enjoyment of owners and occupants of land adjoining or neighboring such open space.

Open Space Spine - A major linear open space corridor that connects districts and other open spaces. Contained within this corridor may be agricultural areas, nature centers, major public facilities such as city government, and educational centers for both private and public uses.

Ordinance - A municipally adopted law or regulation.

OSPTC - Open Space, Parks, and Trails Committee.

Overcrowding - Households which have 1.01 or more persons per room are considered to have needs with respect to overcrowding.

P

Paleontological Site - Any area or location containing a trace or impression, or the remains, of plants or animals from past ages.

Park - Any public or private land set aside for aesthetic, educational, recreational, or cultural use.

Parkway - A moderate speed arterial highway abutting and distributing trips to a variety of land uses. This facility primarily serves short-range trips and is a significant environmental element as it borders the "activity corridors." A parkway has emergency parking only and will have considerable parallel and perpendicular pedestrian movement.

Pitch - A listener's perception of the frequency of a pure tone; the higher the frequency, the higher the pitch.

Planning Area - All territory within the boundaries of the City plus the sphere-of-influence as established by the Local Agency Formation Commission.

Policy - A collective term describing those parts of a general plan that guide action, including goals, objectives, implementing actions, and standards in both the text and diagrams.

Public Facilities - Institutional response to basic human needs, such as health, education, safety, recreation, and inspiration.

Q

Quasi-public - A use owned or operated by a non-profit, religious or eleemosynary institution and providing educational, cultural, recreational, religious, or similar types of public programs.

R

Recreation and Activity Centers - Public, private, or quasi-public structured or unstructured open space, such as community, and regional parks, golf courses, and cemeteries.

Recreation Facility - A place designed and equipped for the conduct of sports, leisure time activities and other customary and usual recreational activities.

Regional Parks - Regional parks are large open spaces and recreational facilities provided either partially or wholly by the County of Orange. They serve the needs of persons throughout Orange County.

Residential Density - The number of dwelling units per gross acre.

Resource Survey - An on-foot reconnaissance of an area conducted for the purpose of determining the presence or absence of historical, archaeological, or paleontological resources.

Right-of-way - A strip of land acquired by reservation, dedication, forced dedication, prescription, or condemnation and intended to be occupied or occupied by a road, crosswalk, railroad, electric transmission lines, oil or gas pipeline, waterline, sanitary storm sewer, and other similar uses.

S

SB - Senate Bill.

Senior Citizens - Persons age 62 or over.

Scenic Corridor - The scenic corridor is the visible area outside the highway's right-of-way, generally described as "the view from the road."

Scenic Highway - A scenic highway is composed of the road and its right-of-way, and the scenic corridor. Rural scenic highways are routes which traverse corridor where natural scenic resources and aesthetic values may be found, such as agricultural or natural areas. Urban scenic highways are routes that traverse an urban area, with the scenic corridor offering a view of attractive and exciting urban scenes.

Significant Site - A site which, regardless of size, in the opinion of an historian, archaeologist, or paleontologist and the City, could yield new information or important verification of a previous finding, or be of significant scientific, cultural, educational, or recreational value, either now or in the future.

Sphere-of-influence - Unincorporated territory to be ultimately annexed and served by the City; land use is controlled by the County.

Streetscapes - Landscaped areas adjacent to public or private streets to buffer adjacent developments which may serve as a means for reducing noise impact.

Statistical Area - A planning unit that contains primarily industrial commercial or agricultural land uses, it is defined by either open space elements or arterial streetscapes.

Subdivision - The division of a lot, tract, or parcel of land into two or more lots, tracts, parcels or other division of land for sale, development, or lease in accordance with the Subdivision Map Act.

Suitability/Habitability - Refers to the condition of a housing unit; households living in units requiring rehabilitation or replacement are considered to have needs with respect to suitability and/or habitability.

T

TAP - Traffic Analysis Program.

Temporary Bikeway - A Class I or Class II bikeway which will be removed or relocated at some future time.

Theme - The pervasive character of an area, development, or special place.

Thruway - A relatively high speed arterial highway with restricted access supplementing the freeway system and carrying intermediate range trips to or between major nonresidential land uses. A thruway has emergency parking only, and minimal pedestrian interference with traffic.

Transit Corridor - An area reserved for the exclusive use of some type of mass urban transit; it can facilitate both intra-city and intercity movement.

U

Urban Design Structure - Framework which guides the development of the planning area, is comprised of the open space system, the circulation, network, and the village and district structure.

Use - Purpose for which land or a building is occupied, arranged, designed, or intended, or for which either land or building is or may be occupied or maintained.

V

View - That which is seen; a prospect. Something to be looked at with attention.

Village - A residential planning unit, possessing a population of 2,000 - 10,000 people for hillside areas and 5,000 - 30,000 people for flatland areas. The village living unit contains a variable mix of public facilities depending on its size, and is defined by either open space elements or arterial streetscapes. It may be designed to house a similar or deliberately diversified mix of lifestyles.

W

Waste Management - An efficient system for the collection and disposal of waste products generated by households, industry, and commercial enterprises.

Windrow - A plantation of trees or a structure to reduce the force of a prevailing wind.

Z

Zone - A specifically delineated area or district in a municipality within which regulations and requirements uniformly govern the use, placement, spacing and size of land and buildings.

Zoning - The dividing of a municipality into districts and the establishment of regulations governing the use, placement, spacing, and size of land and buildings.



Oversized Map or Foldout not scanned.

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